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A
NEW INQUIRY
INTO THE
CAUSES, SYMPTOMS, AND CURE,
OF
PUTRID AND INFLAMMATORY
F E V E R S;
WITH AN
A P P E N D I X
ON THE
H E C T I C F E V E R,
AND ON THE
ULCERATED AND MALIGNANT
S O R E T H R O A T.

Naturâ monstrante viam.

BY WILLIAM FORDYCE,
M.D. BY ROYAL MANDATE. K

THE SECOND EDITION.

L O N D O N:

Printed for T. CADELL, in the Strand; J. MURRAY, in Fleet-
Street; and W. DAVENHILL, in Cornhill.

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A
NEW INQUIRY

INTO THE

CAUSES, SYMPTOMS, AND CURE

OF THE IMMATURE



OF THE R. S.

WITH

A P. E. D. I. X.

ON THE

M. C. T. I. C. E. V. E. R.

AND ON THE

UNCRATED AND MALIGNANT

S. O. R. H. T. H. R. O. A. T.

By the Hon. the Lord

BY WILLIAM FORBES

OF THE ROYAL HANDBATE

THE SECOND EDITION

BY J. O. N. D. O. N.

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RECEIVED

TO
THE REV^d. DOCTOR FORDYCE
THE FOLLOWING INQUIRY
IS INSCRIBED
BY
HIS BROTHER, AND FRIEND,
WILLIAM FORDYCE.

OT

This Day is published,
(Price Two Shillings and Six-pence, sewed)

The THIRD EDITION,
With ADDITIONS and an APPENDIX,
OF

A REVIEW of the VENEREAL DISEASE,
And its REMEDIES.

By W. FORDYCE, M.D.

PRINTED FOR T. CADELL IN THE STRAND,



CONTENTS.

	Pag.
INTRODUCTION	ix
PREFACE	xiii.

CHAPTER I.

Sect.

1	HISTORY of Fevers	3
2	ESSENTIAL CHARACTER of Fevers	12
3	CAUSES of Fevers found in the Air	14
4	the Seasons	18
5	the Climate	21
6	the Situation	22
7	the Blood	23
8	the Bile	25
9	the Food	30
10	Drinks	33
11	Obstructed Perspiration	34
12	Cloathing	36

A 3

CHAP.

CHAPTER

C O N T E N T S.

C H A P T E R II.

Sect.		Pag.
1	GENERAL SYMPTOMS of Fevers found in the Pulse — — —	43
2	— — — the Cold and Hot Fit —	47
3	Division of Fevers into Putrid and Inflammatory	48
4	Of PUTRID Fevers — — —	50
5	SYMPTOMS distinguishing Putrid Fevers from Inflammatory are found in The Low State of the Animal Spirits —	54
6	The Species of Pain — — —	55
7	The Sicknefs — — —	56
8	The Watchfulness and Delirium —	57
9	The Colour and Texture of the Blood —	59
10	The Appearances of the Tongue — —	60
11	The Dryness and Black Glare of the Teeth	63
12	The Paleness and Crudity of the Urine —	64
13	The Colour and Smell of the Fæces —	66
14	The Quickness and Inequality of the Pulse	67
15	Of INFLAMMATORY Fevers —	69
16	SYMPTOMS distinguishing Inflammatory Fevers from Putrid are found in The equal and composed State of the Animal Spirits	71
17	The Sickness and strong Texture of the Blood	72
18	The Hard and Equal Pulse — — —	76
19	The Fixed Pain — — —	78
20	The Colour of the Tongue — —	79
21	The Marks of Coction in the Urine —	ib.

C H A P T E R

CONTENTS.

CHAPTER III.

Sect.		Pag.
1	Of the CURE of Fevers in general	87
2	by Blood-Letting	95
3	by Vomiting	98
4	by Purging	99
5	by Febrifuge Medicines	
	in general	103
6	by Specific Febrifuges	112
7	Peruvian Bark	114
8	Antimony and its	
	Preparations	123
9	by Sudorifics	132
10	by Cordials	134
11	by Diet	139
12	by Blisters	144
13	by Rectifying the Air	150
14	Of the CURE of Putrid Fevers in particular	152
15	by Vomits	154
16	by Antiseptic Purges	155
17	by Antiseptic Drinks	157
18	by Antiseptic Dia-	
	phoretics	162
19	by Repose, and Sleep	
	from Sedatives and Opiates	ib.
20	By Abstinence from all Promoters of Putre-	
	faction, as Fish, Flesh, Volatile Salts, and	
	Acrid Vegetables	168
21	Of the Abuse of Blood-Letting in Putrid Fevers	170
22	of Blisters in Putrid Fevers	172
	A 4	23 Of

CONTENTS.

Sect.		Pag.
23	Of the Use and Abuse of Wine in Fevers —	172
24	Of the CURE of Inflammatory Fevers in particular — — — — —	175
25	— — — — — by Blood-Letting	178
26	— — — — — by Dilution —	180
27	— — — — — by Antiphlogistic Diet — — — — —	ib.
28	— — — — — by Antiphlogistic Medicines — — — — —	182
29	— — — — — by Blisters —	183
30	Recapitulation — — — — —	185
31	Of the PREVENTION of Fevers —	187

APPENDIX.

	Introduction — — — — —	193
	On the Hætic Fever — — — — —	196
	On the Ulcerated and Malignant Sore Throat	209
1	On the Ulcerated Sore Throat — — — — —	212
2	On the Malignant Sore Throat — — — — —	214

FORMULÆ MEDICAMENTORUM — 223

INTRODUCTION.

MEN, who live in a state of nature, commonly enjoy uninterrupted health for sixty or seventy years. That, of the inhabitants of London and Westminster, so few, in proportion to their numbers, arrive at such an age, is matter of just concern. It seems the more surprizing, as the situation of those cities appears, for the most part, naturally favourable to health; as the climate is upon the whole temperate, the provisions wholesome, and the quality of the water and other drinks in general excellent; nor have they, for more than a century past, been visited by famine, pestilence, or the sword.

It is apparent from the bills of mortality, that, next to the great waste among children

dren in their infant state, Fevers of the Putrid and Inflammatory sort, or a Mixture of both, contribute most largely to this dreadful havock.

They assume a variety of forms; invading secretly and slowly at one time, unexpectedly and violently at another; now going off gradually, then destroying quickly. No disease is so common to all ages, and both sexes; none seizes the healthy so often; none is owing to so many different and contrary causes; none exposes so frequently to the most fatal events; none affects all parts of the body more grievously, or oversets the intellectual powers so completely; and what deserves particular notice, the same remedies are, according to the state of the sick and the periods of the disease, salutary at one time, which at another prove deadly.† Such too is the difference between one sort of fever and another, that treating them as if

† See Wiggan's Preface to Dr. Friend's Works.

if they were the same costs the patient his life. For example, in the Malignant Sore-throat, or in a Petechial Fever, bleeding carried to a certain extent kills; when in an Inflammatory sore-throat, or Pleuritic or Phrenitic fever, it cures. In like manner, while in a Putrid case a well-chosen purging medicine, by discharging the bile or some morbi downwards, suspends the disease, till there is time obtained for its cure; the same medicine, exhibited in a true Peripneumony, checks the expectoration, or perhaps destroys. It is evident then, that some latent causes, not sufficiently explored, operate in producing such a fatality, and that this is likely to continue till they are so thoroughly understood as to enable us to attack them with success, upon the ground of common sense and sound philosophy.

Having for many years observed with regret the destructive effects of these diseases in this metropolis, I have been led
to

to consider their Causes, Symptoms, and Treatment, with an attention which produced the following Inquiry, on which I entered chiefly for my own information and satisfaction. I have since been inclined to believe, that making it public might be of use to the young and unexperienced among the students of medicine, those especially who intend to practise in London, and those who are preparing to take the charge of the sick in our Fleets and Armies. At the same time I am not without a hope that its utility may extend yet further, having endeavoured to address it to the understanding of mankind at large.

The difficulty of the subject will, I doubt not, secure the candour of my readers, as its importance cannot fail to engage their attention.

Warwick-Street, Westminster,

Jan. 27, 1773.

P R E F A C E
TO THE
SECOND EDITION,

THE writers of the Monthly Review for January last have remarked, that, “ after an
“ attentive perusal of the following Work, they
“ are at a loss to determine on what account it is
“ called a New Inquiry, as they find it to con-
“ tain more of the parade of science than any new
“ matter of information with respect to the Na-
“ ture or the Cure of Fevers.”

Were this really the case, the Author must have acted very weakly, to say no worse, in ostentatiously attempting to obtrude upon the Public a performance that could only derogate from his own character, while it contributed nothing to the benefit of mankind. But, that it is not the case, he must continue to think, till those Gentlemen have proved their charge, *by producing from other authors such passages as shall be found equivalent to what he conceives to be New matter of Information, with respect either to the Nature or the Cure of Fevers.* And this he takes the liberty to range under the following heads.

I. Of the appearances of the Blood in the Inflammatory Fever he has given such a description, as
will

will at once, in most cases, ascertain the nature of the fever, the quantity of inflammation, and the strength of the patient; and furnish, on the whole, the surest rule for determining to what extent the bleedings are to be repeated for its cure.

II. Of the appearances of the Tongue in the Putrid Fever he has offered such an account, as may enable the physician to judge with more accuracy, than by any other symptom, concerning the quantity of putrefaction, the progress of the disease, and its entire removal (we will not say its crisis) as well as concerning the course necessary for its cure by antiseptic medicines and diet, and the extent to which both must be carried; points which had not been sufficiently explained before in this country.

III. He has shewn, that all the varieties of the Putrid Fever, by whatever name they are called, excepting a very few of the malignant kind, or the plague itself, do probably partake of the same common nature, and may be instantly corrected into a much safer state, and afterwards gradually expelled from the habit, by a process more or less antiseptic, and more or less evacuating, but in general of greater efficacy than any that had been publicly taught, or generally practised.

IV. He has evinced, that the symptom of Putrid Fevers which is always most alarming, and often fatal,

fatal, namely, Watchfulness, or yet Delirium, may be frequently obviated by a very simple process here described, and hitherto not even suggested for that purpose.

V. He has prescribed a PREVENTIVE POWDER, which will, in numberless instances, prevent the Putrid Fever when just impending; and specified the marks to know when it should be given.

VI. He has recommended a better regimen, in the Hectic Fever, than is practised in London, except by a very few physicians; and has added a prescription for a medicine, in the Hectic of Infants, when marked by a swelled belly, that will be found effectual to a degree never known in England.

VII. He has pointed out a more accurate and efficacious regimen for the Putrid Sore-throat than has been offered to the public by those who have given the best description of that disease.

He may venture to subjoin, that by putting together, in a scientific manner, the lights left us on the subject of Fevers by the ancient physicians, and the most respectable of the moderns, he has endeavoured to convince young and ingenuous inquirers after medical knowledge, more strongly than has been yet done, of the difference between the enlightened experience of ages, and those unsupported opinions which the students of physic are daily imbibing at our several schools in the different parts of this island; where, to adopt the language

guage of a masterly Writer, " They are taught to
" lead Nature captive, and to make her act con-
" formable to their preconceived notions, however
" crude and chimerical, imposing laws on the
" animal œconomy which have no reality, and
" establishing, with great praise and industry,
" sources of action which exist no where but in
" their own imaginations."

Thus has the Author of this little Work made his dispassionate Appeal to the Public, whose impartial judgment will finally decide between him and the Monthly Reviewers. If, after a particular and candid examination of the only evidence that can weigh on the present question, viz. *what has been said by other writers on the above articles*, it shall appear that the allegation brought against him is well founded, it will then remain for him to plead, as he can with the greatest truth, that he is no plagiarist, having acknowledged all that he remembers to have borrowed; that, so far as his reading has extended, those articles seemed to him to contain New matter of Information in the sense in which he has stated them; and that in writing these sheets he was not studious of the parade of science, but sincerely ambitious of adding his mite to the advancement and utility of a profession so nearly connected with the most important interests of humanity.

August 6, 1774.

CHAPTER I.

CHAPTER I

SECTION I.

HISTORY OF FEVERS.

HISTORY OF FEVERS.

IF there were any records of Fevers, or of their treatment, before the days of Hippocrates, they have not been transmitted to us. Though Babylon, the capital of Assyria, was renowned as the most ancient seat of wisdom, it was yet without physicians. The same historian,* who mentions this fact, informs us, that *Ægypt* had physicians for every disease, but says nothing of their writings; and it is probable that nothing of importance in this way was produced before the Hippocratic æra.

It was observed by Pœtus, a correspondent of Artaxerxes, that Hippocrates possessed, unlike all former physicians, a knowledge of the most extensive kind, comprehending at one view all the branches of physic. Before he was thirty-four years of age, he wrote his Epidemics; when it is probable he only watched the progress of diseases, or at least but seldom practised venæsection for

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● Herodotus.

their cure; since we find so many of his cases ending in hæmorrhages, &c. Nor is it less probable, that, depending on diet chiefly, he then used but few medicines: he would else have mentioned what they were; for in his first and third Epidemics we find him noting accurately the minutest circumstances, the succession of the symptoms, and Nature's manner of relieving herself in the diseases going off at stated periods by hæmorrhages, diarrhœas, thick water, critical sweats, abscesses, &c. There we likewise find observations on the air, seasons, winds, situation, waters, diet, age, and sex, recorded with a historical precision hitherto unequalled. And in his fourth Epidemic he describes a constitution of the air producing diseases attended with such symptoms as nonplussed this accurate observer himself, and obliged him to have recourse to his Θεῶν τι.

Of those diseases some were distinguished by eruptions of the Σηψ kind, from which we learn that they were of a putrid sort: and hence the origin of the terms Septic and Antiseptic, so much more talked of than understood at present. Perhaps this great man had an eye to the symptoms of that pestilence which happened at Athens, while he was at Thrace, in the second year of the Peloponnesian war, anno mundi 3574, 425 before Christ, and about the thirtieth year of Hippocrates; and of which it is particularly related
by

Sect. 1.] HISTORY OF FEVERS.

by the historian Thucydides,* “ that during its
“ progress such a state of despondency seized the
“ sick, as to put an end to all attempts for their
“ recovery.”

Another proof this, that medicine had before that period not received lights of any consequence; since so learned and inquisitive a people as the Athenians would probably have been otherwise possessed of them, and in the course of such a calamity applied them. In favour of the Hippocratic method of studying diseases, it may be justly considered as no slight presumption, that we find those Athenians a few years after rewarding, with singular honours, that illustrious person, for preventing, as they believed, the return of the plague, or obviating the evils to be apprehended from a malignant state of the air.

Among the particulars which strike us in his books of Epidemics, it is not the least remarkable, that heat was the constant attendant of a fever; and hence, probably, the technical term, Πυρεξις.

In the first and third Epidemics we meet with the names of Pleurisy, Peripneumony, Phrenitis, &c, which were severally applied as the side, lungs, or brain, became the seat of the disease. Again, we see a number of patients recovering by hæmorrhages, expectoration, fluxes, thick water, abscesses, which were so many exertions of Nature

for her own relief. From such observations, aided by long experience, he probably composed his other works ; and from them again his Prognostics, Aphorisms, and other divine pieces.

We are also informed of fevers, whose whole duration being only one accession, gave them the name of Continual Fevers. They did not affect any particular part, and lasted longer or shorter according to their genus. Among the most simple of these was the Ephemera, or Diary Fever, which ran its course in twenty-four hours ; and hence it took its name.

When the fever was protracted by any cause, so as not to run its course in that time, and was not attended with any appearances of malignity in the urine, sweat, or excrement ; it was reckoned very manageable, and called simply Synochus, or Continued Fever, and went off in three or four days. It is described in the Prognostics of Hippocrates.

When the continued fever was sometimes stronger, and did sometimes abate, but never entirely disappeared, it was termed a Continual Remittent, to distinguish it from the species last mentioned,

But when the juices of the body differed much from their natural state, the fever was deemed of a bad sort, in proportion to their degree of degeneracy, and was called Continual Putrid.

The next kind of fevers were Intermittents, which went through their course by repeated accessions, with a freedom from fever in the intervals, and returned at stated periods. Of these they observed various sorts, which, according to their time of return, were denominated Quotidians, Tertians, Quartans, or a combination of them. When the intermittent fever doubled, it often put on the appearance of a continual one, was scarcely to be distinguished from it but by a master in the profession, and was chiefly known by the stated hours of its return, by its coming at the seasons of intermittents, and by finally ranking itself in that class. Such Hippocrates has specified, in his *Coacæ Prænotiones*, as ending in quartans: and such have been since marked by Dr. Sydenham, as appearing early in the autumn, and being really intermittents; though also, as he confesses, frequently taken for continual ones.

Fevers were early called Epidemic, as invading a whole people who inhabited the same country, lived on the same diet, and drank of the same water: they were called Endemic, when peculiar to one place; and they took the name of Sporadic, when they only attacked particular constitutions.

Again, Acute fevers were divided into different sorts, according to the part affected. Thus an inflammation, if affecting the brain, was stiled, Phrenitis; if affecting the intercostal muscles and the pleura, Pleuritis; or, if seizing the lungs

themselves, Peripneumonia: and of each kind the progress and issue were marked with peculiar precision.

But as some fevers were attended with symptoms, of which the old physicians could not trace the cause, and where they could not judge of the part affected; as those fevers continued beyond the usual periods, or were not accompanied with the usual appearances, within their usual periods, of sweats, loosenesses, thick water, nor with any crisis in the water; calling such *αἰσίοι*: so there was nothing left but to refer them to the *Θείων τι*, and characterize them by their idea of the worst symptoms, or by a name which marked their peculiar type, as Typhodes, Hemitritea, and others in that stile.

But in process of time, that is, in the days of Alexander Trallian, who lived soon after Julian the emperor, and who, like the industrious bee, travelled every where to collect every possible information, concerning medicines or diet, that could be of use to the sick, physicians began to reason with intelligence on the causes of fevers; and from thence to distinguish them into the general names of Putrid and Inflammatory. "Men," he observes, (lib. xii. c. 2.) "are divided
" in their opinions about the causes of fevers; some
" asserting that they are all produced by bile;
" others, by phlegm: nor are there wanting those
" who deny, that any ever arise from the
" putrefaction of such matter in the veins, though
" it

“ it is there inflamed ; but affirm, that the putrid
“ materials exist only in the belly ; remarking, in
“ proof of their assertion, that a vomit, or a glyster,
“ has often carried off a fever ;” which he regards
as a circumstance of much weight on their side
of the question. In the same book we find these
two remarkable passages.

“ Though the ancients were shy of purging in
“ fevers, I have purged in an acute one ; but it is
“ a practice that requires great knowledge,
“ attention, and boldness.

“ When you discover that fevers arise from the
“ blood, take away blood in the beginning ; but
“ in fevers from bile, purge rather : to the
“ excretion of which bile if there seems to be any
“ tendency, you may conclude the fever will not
“ be violent.” See his 12th book.

Finally, the Greek writers distinguished fevers
into Acute and Slow. By the first they meant those
which more directly endanger life, ending in a
certain number of days ; and which are acute in a
greater or less degree, as they kill in one day,
which happens very rarely ; in three days ; or in
seven, fourteen, twenty-one, or more. By Slow
fevers they understood such as exceeded a certain
period ; and them again they divided into those
which might be fatal, as Hæctic, Cachectic ; and
those that might be safe, as Quartans.

Thus it appears, that while the ancient writers
paid a very earnest attention to all the appearances
of

10 HISTORY OF FEVERS. [Chap. I.
of diseases, and classed them out to a great number, they were not sufficiently acquainted with the nature or causes of them.

Some of the physicians of the latter centuries, enlightened by philosophy or chymistry, and masters of the healing art, as laid down by the Greek physicians, have done much towards the improvement of medical knowledge; I mean particularly Ballonius, Duretus, Heurnius, Forrestus, Lommius, Riverius, Sydenham; and in this century, F. Hoffman, Boerhaave, and his school (Haller, De Haen, and Van Swieten) Tissot, Huxham, and others: but to their ideas and experience too little attention is paid in this country, where some of our first physicians are devoted to the specious systems of Sauvages, and his abettors, by whose technical terms, and numberless Greek etymologies, they have divided and subdivided them in such a manner, as not only to perplex the minds of many ingenious enquirers, but actually to frighten them from the study of the profession. For this reason, among many others, I wish to propose a shorter and simpler view of the matter; and presume to lay down the following maxims.

That all fevers may be comprehended under three classes, Putrid, Inflammatory, or a mixture of both:

That each may at first sight be suspected, or almost certainly known, by the symptoms peculiar to each: That

That in the putrid, an antiseptic course may be immediately adopted with a degree of security scarcely known hitherto, and hardly to be credited, as it renders their issue happy, not much less certainly than that of inflammatory fevers, which are already known to be generally safe, if the antiphlogistic method, which consists of bleeding, together with a proper diluting and attenuating regimen, be begun in time, and pursued to its just extent.

In fevers of the mixed sort the cure consists of bleeding in the beginning, together with proper correctives of the humours, and afterwards purging them off.

Let us now enquire into the Essential Character, the Causes and Symptoms of Putrid and Inflammatory Fevers; and also into the Treatment adapted to each, referring the mixed sort to some other opportunity: for, if the causes are not explored, and the symptoms which distinguish the Putrid from the Inflammatory are not marked, the cure of the one applied to the other will be fatal; as, on the contrary, if both are treated according to their nature on their true principles, a few plain rules will place the Putrid nearly as much within the reach of art as the Inflammatory.

[112]

S E C T I O N II.

ESSENTIAL CHARACTER OF FEVERS.

IT has been long a question, What constitutes the essence of a fever: Hippocrates is the stile of Hippocrates, as if he believed Heat to be its proper character. Galen and his followers, both Greeks and Arabians, thought that an unnatural heat, spread over the whole body, or over many parts of it, at least over its noblest parts, was the peculiar characteristic of this disease: that though the outward parts were not remarkably hot, either to the physician's touch, or to the feeling of the patient, they were always sensible of an inward burning. Though this is true of the worst sort of fevers, yet persons afflicted with agues feel great cold in the beginning of the fit, both outwardly and inwardly, so that there may be a fever without any unnatural heat; consequently the essence of a fever is not heat. The Arabian physicians supposed the Interruptions of the Functions of Life to be the essential character of the disease under consideration; but this likewise can only be applied to some species of fevers, and not to fevers in general. The physicians of the present century have, after many disputes, reduced the general idea of fevers to this simple mark, Quickness of Pulse: for, say they, it is the only symptom that holds universally true, as the other

other phenomena do not, like it, exist at the different stages of a fever, or only constitute the species, and not the general essence of fevers. But to this it may be objected, that in many states of the putrid fever the pulse is under sixty, which is certainly below the standard of a healthy pulse in either sex. It is to be regretted by the way, that this circumstance should be so often considered as a bad symptom, since we have so frequently found it the surest mark of a tendency to recovery, and a most favourable circumstance, where, being rightly understood, it is not changed by stimulating drugs, called Cordial Medicines, blisters, and other supposed cardiacs.

There are some constitutions where, though a cold and hot fit have preceded, the fever does not raise the pulse to the feverish standard. I have under my care at this time a young gentleman ill of a fever, with a very foul tongue, very fizy blood, and pain in the hepatic region upon motion or deep breathing; it is the eleventh day of the fever: the blood drawn away the fourth time, on the ninth was very fizy; but the pulse never has been up at seventy-two: he recovered on the fourteenth.

It may likewise be objected, that exercise, the heat of the air or bed-chamber, the age and sex, as well as the emotions of the mind, affect the pulse: but all these are properly applied to the species, and not to the genus of fevers. The alteration of the pulse,

14 ESSENTIAL CHARACTER OF FEVERS. [Chap. I.

pulse, with a painful and unusual lassitude of the whole body, and a sudden weakness in arbitrary motion, is pronounced by Bianchi, the Pathognomonic sign of a fever.*

For my own part, I believe with F. Hoffman, that any such Impediment to the freer Circulation of the Blood, as destroys its æquilibrium, is the essential character of a fever.

S E C T I O N III.

GENERAL CAUSES OF FEVERS.

IN the earlier periods of physical enquiries we discover among physicians the greatest marks of attention to whatever could be supposed to have a share in producing fevers. They looked for their causes in the Air and its different temperaments of heat and cold, in the Seasons, Climate, Situation, and every circumstance or accident that could at all affect the quality of the fever. This they did with a sagacity and acumen that would have done honour to the most enlightened of modern times, in which the principles and properties of bodies, together with the action of the different elements, are certainly better understood; but in which, I am sorry to say, they are not regarded as they deserve, either by the sick, or by their physicians.

The

* Historia Hepatis, p. 547.

The Quantity or Quality of the Blood, of the Bile, of Foods, of Drinks, of Obstructed Perspiration, and too Thin Cloathing, will likewise be found material causes of fevers.

A I R.

Air is the chief instrument of health and principle of life, without which no animal can subsist. Nature accordingly makes use of all possible ways to preserve it in a wholesome state; for it is thinned and purified by heat, stirred and kept in continual motion by the winds, by which too the airs of different countries are combined and mixed together.

Lightening and thunder purge the corrupted, and consume the redundant and noxious particles. Plagues have been preceded by great calms. In hot countries thunder-storms benefit the air extremely.

Although the air is by such means often preserved in a wholesome state, yet particular countries, situations, and seasons, often alter its qualities so as render it more or less unfavourable to our bodies; its dryness producing one set of diseases, its moisture another, its heat or its cold another, and so of the rest.

No animal can exist long in the same individual quantity of air. A linnet is made sick in three hours with living in half a gallon of air.

Dr.

Dr. Hales could not live half a minute without uneasiness in seventy-four cubical inches of air, and not one minute in the same quantity without danger of suffocation.

As a gallon of air is spoiled by the steams of a man's breath in one minute, consequently a hogthead of air would not supply a human creature an hour; nor indeed can he live in it one third of that time. From which instances it appears, that air is quickly spoiled by the fumes of the lungs: but as the lungs are the chief instrument of sanguification, churning and mixing the blood and chyle by their reciprocal expansion and dilatation, they cannot perform their office without a continual fresh supply of air: weak lungs therefore leave the sanguification imperfect.

Burning matches of brimstone suddenly destroy the spring of the air; and the steams of animals and candles render it unfit for respiration.

If animal bodies are in a decaying state, and the air be filled with their steams, they sometimes produce pestilential fevers: the steams of some decayed vegetables have the same effect. The effluvia of human bodies are likewise very hurtful to the air. Three thousand men living within the compass of an acre of ground would make an atmosphere of their own steams, seventy-one feet high, which would soon become pestilential, without the winds to dispel it. The air of prisons for this reason produces mortal fevers.

Of ladies, and tender people, who pass a great part of their time in close rooms where the air is tainted with the steams of candles, as well as the effluvia of their own bodies, the blood is much spoiled; which accounts for the debility of their nerves, and their being often affected with nervous fevers. Asthmatic people cannot bear the air of rooms and cities, where much fuel is burnt; and find most ease in summer, when fires are less frequent.

I have known fits of asthma come on just before a thunder-storm.

Moisture relaxes all animal, as well as vegetable fibres. Such diseases therefore as proceed from laxity, must be the common diseases both of moist seasons, and of moist countries. To the relaxation of the fibres by moist air are owing many symptoms, which human bodies feel in moist weather.

Dryness of air, by producing opposite effects, produces opposite diseases.

Cold air braces the fibres, not only by its condensing quality, but likewise by congealing that moisture which relaxes. By bracing the fibres more strongly, condensing the fluids, and giving a stimulus, it produces that strength and activity, of which people are so sensible in frosty weather.

There is a degree of hot air, which, though not sufficiently strong to dry or destroy animal fibres, yet lengthens and relaxes them, so as to occasion the faintness and debility so often experienced in a hot day.

The air varies in its weight considerably at particular seasons of the year, and according to particular situations. How different on the tops of mountains and in the bottoms of mines!

It is known, that miners are forced to imitate Nature's way of correcting the air, by shafts, artificial winds, bellows, and setting fire to the sulphureous steams.

In salt mines, indeed, great numbers of people enjoy perfect health without coming above ground.

Steams of vinegar resist putrefaction by impregnating the air with its powers.

If the height of the mercury varies but one inch, it shows in the air a difference of one thousand pounds weight, which in slender habits must affect very sensibly both the fluids and solids.

Resting in cool air after exercise produces many diseases.

S E C T I O N IV.

S E A S O N S.

AS the seasons differ very widely from one another, so we know that they occasion great change in the constitutions of men's bodies, and in the state of their minds, as they produce very different diseases. There was in the time of Hippocrates a manifest circulation of diseases consequent on the seasons; and the same thing has been observed to continue
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Sect. 4.] FOUND IN THE SEASONS. 19

in every country; where epidemic diseases have been registered. See Dr. Sydenham, Rogers, Richa, Ramazzini, Wintringham, Grant, and others.

To know what disease each season may be expected to produce, is the way to oppose them with success. Thus the spring gives birth to inflammatory fevers from fizy blood, which require, as it is earlier or later, a treatment more or less antiphlogistic; and we can prevent or mend them by warm cloathing, diluting drinks, bleedings, &c. In that season, and in the beginning of summer, children enjoy the best health, says Hippocrates. The summer abates the inflammatory symptoms, dissolves the blood, and in proportion to its heat produces more or fewer putrid fevers, and affects the head particularly.

At this season, and towards the autumn, old men are in the best health. The autumn is with justice considered as the most sickly season in this climate. Moisture with heat, and sudden changes from hot to cold, by raising much putrid vapour affects the elasticity of the fibres, destroys the fire and vivid circulation of the blood, and dissolves the humours beyond what a healthy state admits. At the very time that the surface of the body requires the freest perspiration, the heat of the air makes the proper quantity of cloathing irksome to inconsiderate people; from whence it happens, that the most putrid effluvia, which should pass through

the pores of the skin, are checked, grow caustic, and mix with the blood, while due care is not taken to preserve the juices from corruption by an antiseptic regimen; and, when they are corrupted, sufficient regulations are not observed for carrying off the disorder, with efficacy or dispatch, by either proper cloathing, detergent medicines, or a suitable diet. Nor can we help observing with regret, that the large provision which the Supreme Benevolence has made against the hurtful influences of this season, is either neglected, or not understood: the cherry, the raspberry, the peach, the nectarine, the melon, the currant, and the barberry, are only considered as articles of luxury; and some practitioners forbid the very fruits which Nature intended as her richest cordial and most efficacious alexipharmac.

The end of autumn, and beginning of winter, chiefly affect people in the middle stages of life. The winter itself finding the blood in a putrid state condenses our bodies, and at the same time that it makes them elastic and active, subjects them to vehement diseases, affecting the spirits with atrabiliary complaints, or the organs of respiration in an eminent degree; an evil, to which the north winds greatly contribute. To speak more at large, fevers of the blood appear in the former, and fevers of the bile in the latter part of the year. In summer we should eat less, and drink more; in autumn we should avoid fish, and every species of food that promotes

SECT. 5.] FOUND IN THE CLIMATES. 21

promotes putrefaction, and live chiefly on fruits that will dissolve and carry off the bile; and in winter we should relax our blood vessels by light wines, warm drinks, as teas of every sort, and warm cloathing.

S E C T I O N V,

C L I M A T E S.

IN this commercial country every one has heard of the difference between hot and cold climates, of the unwholesomeness of some of our East and West India settlements, of the different effects of heat and cold on our bodies; how much the same substances tend to a more or less putrid state, according to the nature of the climate, or the season of the year. A fisherman of Archangel sends his fish, caught on the coast, to St. Petersburg, at eight hundred miles distance, perfectly fresh: the Canadian, who kills his game for winter provision at the setting-in of the frosts, can depend upon its freshness till the heat of the returning spring warns him of its changing to a different state: while the inhabitant of Kingston, in Jamaica, or of the Havannah, in the island of Cuba, knows that what is killed must be eaten in thirty hours if he wishes it to be fresh.

To have hinted at the influence of climate on our bodies, and on all animal substances, will be

sufficient to show what attention is due from both the physician and the patient to ward off their pernicious effects.

S E C T I O N VI.

S I T U A T I O N.

PHYSICIANS, ancient and modern, have shown a particular attention to situation: they considered the height and lowness of the ground; to what winds it was exposed; its southern or northern aspect; whether the soil was sandy, gravelly, or clayey: they observed, that the local qualities of the air were most permanent in calms, and least so in winds, as we mentioned above; that mines, grottos, ditches, and valleys, retained the qualities of the air longest. They took notice what waters were in the neighbourhood: they found that a gravelly soil on the banks of a quick-running stream was in general a very healthy situation; while a rich and marshy one, on the sides of slow-moving waters, especially in hot climates, was the reverse; and that where the waters stagnated, it was yet more so.

S E C T I O N VII.

B L O O D.

BLOOD is supposed to be made up of red globules and serum, and is certainly found thinner or more dense in proportion to the weakness or strength of the constitution. The proportions of serum and crassamentum vary according to the circumstances of age, sex, complexion, exercise, &c.

Dr. Hales reckons it to contain $\frac{1}{15}$ part of condensed, consolidated, fixed air.

Its specific gravity is $\frac{1042}{1000}$ parts, or thereabouts.

When blood flows from a vein of a person in health, it appears a homogeneous fluid, though by no means such in reality, whether we consider the variety of foods which supply it, or the secretions from it, as saliva, bile, urine, &c.

If blood is taken from an artery, it remains gelatinous; if from a vein, it separates into cruor and serum, which vary according to the size and shape of the vessel, the time of standing, &c. When received in the usual method and preserved, the longer it stands the more serum will separate; and till the heat be about eighty degrees, it will do so still more in proportion to the warmth of the place. If it stands in nearly its natural heat, no concretion takes place: but if exposed to sudden cold, it concretes into an almost entire mass, without

any separation. If received into a number of small vessels, the serum will separate; but the cruor will appear in a greater quantity than if received into larger vessels. If the vessel be very shallow, the concretion will be more entire than in a deep one; and if received into vessels almost close, it will not separate at all; nor does any separation ensue if the vessel is agitated as soon as the blood is drawn. If the blood is corked up as soon as drawn, and so as to exclude the air, it remains of an uniform colour: and thus its surface appears to be more or less affected by the air. If blood is taken away an hour or two after a hearty meal, the crassamentum seems to float in milk, occasioned by the fresh chyle which mixes with the blood at that time. I have seen patients much alarmed at this appearance, from their ignorance of the cause.

It is but fair to acknowledge, that experiments made on the blood, by mixing with it different things out of the body, cannot determine absolutely what effects will be produced by the same things when administered inwardly, where they must be so much altered by blending with the gastric, salivary, and other juices in the intestinal canal, before they pass into the circulation: but the effects of cantharides, rhubarb, madder, turpentine, &c. give room to believe, that they do enter the blood unchanged in many instances, and may probably be found to do so in many more, when time shall educe truth.

Physicians

Physicians and anatomists differ in their opinion about the venal and arterial blood. Dr. Haller maintains, that they are in every respect the same: but the best anatomists of this country contend, that the venal blood, which the ancients described as blackish, is really so, and acquires the bright and florid colour of the arterial blood by the action of the lungs and arteries.

It readily mixes with water, is neither an acid nor an alcali, and does not ferment with either of those salts. By standing for some time it grows putrid; and this disposition is increased by heat.

It produces, by the chymical process, phlegm, a volatile spirit, (containing a volatile alkaline salt, which Dr. Boerhaave calls spirit. alcalin. oleos.) and a caput mortuum.

S E C T I O N VIII.

B I L E.

THE Bile continuing in its natural state, and flowing in its proper channel, has a mighty influence on the preservation and welfare of the animal frame. Our digestion cannot go on successfully without it. The bowels lose their peristaltic motion the moment its quality is changed, or the necessary quantity is not furnished. If its oeconomy is destroyed, every thing goes to wreck.

So great is its importance to health, that it is perhaps even more to be regarded than the pulse,
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the urine, the tongue, or the eyes; and the physician who understands its nature, and can either supply it when wanting, or unlock it at pleasure when it has regurgitated into the mass of the blood, or fallen upon the brain, cannot only manage with dexterity most of the diseases of the first passages, and many chronical diseases of the worst tendency, but also possesses the secret, known to few, of rendering the treatment of putrid almost as simple and safe as that of inflammatory fevers.

From the largeness of the liver, with which every animal is furnished, and which a great writer stiles the Monarch of the Abdomen, we may collect the peculiar importance of the juices secreted by it to the purposes of life.

From its discharging the cystic and hepatic bile into the intestine so near the stomach, we may infer the necessity of its being mixed with the food; for, had it been excrementitious, Nature would not have thus mixed it, but would have discharged it at once nearer to the colon, or rectum. The slower motion of the blood in the vena portarum, through the liver, promotes a large secretion of bile; and the slower motion of the blood, through all the viscera which communicate with the vena portarum, is probably the reason why these viscera are more liable to obstructions, infarctions, and inflammations, and of course frequently become the seat of chronical and grievous diseases; and likewise why errors in either the quantity or quality of

of gall breed so many complaints. It is calculated by Borelli, that one pound of bile is daily separated from the liver of a man; and it is proposed as a problem, Whether too much gall, and that of a healthy consistence, may be generated by a healthy body.

Certain it is, that too many bitters may produce this effect, and dispose to so hot a temperament as to bring on vomitings, hæmorrhages, the flux, affections of the mind, or a tabes.

But a defect of bile is the most general evil; and that defect is productive of cachexy, dropy, the hypochondriacal affection, and other chronical diseases. Fat ale, thick air, fat or coarse foods, tend to consume its quantity.

It is the opinion of an eminent chymist, who was also a most experienced physician, that the bile, in its mixture and crasis, resembles very much the juices of bitter plants, especially the centaurium minus, whose extract differs little from inspissated bile;* and it is very remarkable, that such juices, mixed with acid, alkaline, or spirituous menstruums, produce the very same phenomena as bile: the reason, probably, why extracts and essences of bitter plants have such wonderful efficacy in supplying deficiencies of the bile, in restoring its lost quality, and thereby affording a divine remedy for preventing and for curing diseases.†

Yet

* F. Hoffman de Bile medicina & veneno corporis.

† Ibidem.

Yet, strange as it may seem, their use, if you except extract of gentian, is hardly known in this metropolis.

It is a known fact, that stagnating bile putrifies more easily than blood; and it is equally known, that any thing corrupted or putrid is an enemy to the human body, impairs its vigour, disturbs its tranquillity, and perverts its motions. With justice therefore we trace the origin of putrid fevers, in phlegmatic and cachectic people, to corrupted bile in the first passages; so that whatever brings up by vomiting, or carries down by purging, the dregs collected in the stomach and intestinal canal, is of use in putrid and malignant diseases.

In short, evacuants, that act without spasm, and that do not hurt the tone of the intestines, such as bitter pills and neutral salts, with other correctors of bile, given early enough, and in sufficient quantity, strike at the very root of putrid fevers. It is certain, that the blood is by heat dissolved into a more bilious and excrementitious state; and that this is increased as the greater strength, agitation, and heat, subsist in the body. No sooner is a spasm brought upon the biliary duct, than the blood is loaded with bile by regurgitation, and a jaundice is often the consequence. Thickened cystic gall, not being able to pass the common duct, produces the same effect as gall-stones, or an inflammation in the duct, immediately: and what ensues? The skin itches, the body is heated, the spirits are oppressed, sleepiness

sleepiness comes on, and the stools change all at once to a clayey or white colour. Of this every one in those cases may be informed by his own eyes, if he will take the trouble to use them. I know there are physicians, and those too of reputation, who laugh at such inspection: but I will venture to assert, that he who makes it with care can tell when the spasm is gone off from the duct, or when it is likely to go off, while they cannot.

The state just described is but the beginning of mischief. Let it proceed a little farther, and the liver grows full, and often inflamed; the sanguineous vessels cannot bear so active a fluid circulating in them; the patient is seized with fever, and dies of obstructed bile, or becomes dropical, when an imaginary, instead of the real, cause is commonly given for the catastrophe.

Hoffman observed long ago, that nothing tended more to vitiate the bile, or render it impure, or load it with caustic salts, than the usual perspiration on the surface of the body being checked: a circumstance, which may well be numbered among the most general causes of putrid diseases in this country, where the natural hardness of the people, the violence of their exercises, and their inattention to their hours, food, and cloathing, at particular seasons of the year in so unequal a climate, subject them to fevers of such a sort as they would not have otherwise known in a country where, though the climate is unequal, it is yet temperate.

When

When the bile is either deficient, or checked in its progress to the bowels, "I order," says Bagilivi,* "a little rhubarb to be chewed immediately before dinner; by which means the chyle is not disappointed of such a balsam as the bile, the rhubarb acting instead of it, and breaking down and purifying the blood."

S E C T I O N IX.

F O O D.

AS mankind remain in a state of nature, or are farther removed from it, their food is more simple, or more varied. What would have been considered in this island as luxury three centuries ago, is now scarcely thought sufficient for our meanest labourer. While we find our real wants easily supplied, our artificial ones almost raise a famine. How would the Laplander, whose rein-deer is all his fortune and all his luxury, or the Indian on the Ganges, whose rice is all his food and all his ragouts, stare at our markets, and look on them as shambles for the lion's den! Nor would any of the followers of the Coan school be less surprized to find, in the chambers of our sick, jellies, broths, beef teas, Thames flounders, and minced veal; or even our panadas made with blades of mace, or stuffed with grains of pepper. I have often seen ten or twelve intire grains of black pepper in half a pint of panada.

* Bagliv. de Bilis natura, usu, & morbis.

I mean not by these hints to condemn universally our full diet, but only to lay before the public the folly of treating a disease which arises from plethora with the richest food and most heating drinks, as I am sorry to say is done every day, and allowed by those who ought to know better. For instance, is beef broth, or, if you please, beef tea, necessary for a patient in a pleurisy, or inflammatory rheumatism; where the nature of his disease and fizefness of his blood require the superfluity to be removed, and the remainder diluted? Is it necessary to mention the extreme impropriety of permitting, in putrid fevers, so many articles of food, which are of such a nature as to increase the quantity of putrid humours? Can a flounder in particular, or more especially fish brought from our coasts to the London market, and already tainted in a greater or less degree, be salutary food in a putrid fever, where the sweat, breath, urine, &c. are already offensive beyond enduring?

If food be taken in too large a quantity, it causes a fever; for too large a quantity of juices is thereby poured into the blood, which cannot be easily broken down as it ought; so that what remains in this state must excite a fever, at least till it is dissolved. The stomach being too full is distended; and, in its efforts to contract itself, both its orifices close: then the food heats, rarifies, irritates, and raises a fever. What must a body, already labouring with

with fever, not suffer from foods that throw in such an addition of feverish materials?

Foods consist of animal substances, or the different parts of vegetables. Animal substances have different effects on our bodies, according to their particular properties, or according to the state of our bodies, at the time of using them.

We have before observed, that the state of the air, as to heat or cold, makes a very great difference in the nature of animal substances: and we have likewise seen, that in climates where the heat of the air, by Farenheit's thermometer, is between eighty and a hundred degrees, animal substances grow so putrid in a few hours, as to be scarcely fit for use. Can such be taken with impunity into our bodies, when heated by fever above a hundred degrees, if not tempered by antiseptic sauces, salt, vinegar, &c.? What state must they produce in our juices, when they themselves have been fed on animals? Of this kind are fish of every sort; all the wild and sea fowl that live on worms or fish, such as snipes, woodcocks, geese, ducks; and at particular seasons of the year even the granivorous birds, as partridges, chickens, pigeons, partake of the same diet with the above named; and all give a more or less putrid tendency to our juices, in proportion to the time they have been killed, the season of the year, and the state of the body into which they are received.

It is also certain, that animals in the southern part of this island contain a greater quantity of fat
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than in most other countries; by which, as every one knows, our bodies are disposed to a greater degree of plethora; indeed, so great as to put it out of the power of our vessels (where great exercise cannot be used) to comminute it sufficiently: hence the croud of inflammatory fevers so common in England, and most especially in London and Westminster, where so little assistance can be given towards a perfect sanguification, from the want of elasticity, and other requisites, in an air on which above a million of human bodies are daily fed.

S E C T I O N X.

D R I N K S.

IT can scarcely be necessary to take notice, that no country in Europe contains such a number of fat people as Great Britain. I will not say what share its happy constitution and laws, or the independence of its inhabitants, have in producing this effect; but am well persuaded, that its strong, and often fatal drinks, tend to fill the blood-vessels immoderately. It is probable, that the great want of attention to our cloathing, and our little regard to hours and seasons, contribute not only to occasion many of our inflammatory fevers, but also to promote a mixture of inflammatory with putrid ones. Witness the number of bad autumnal diseases, which will not yield to any treatment but such as is both antiphlogistic and antiseptic.

SECTION XI.

OBSTRUCTED PERSPIRATION.

HE who is unacquainted with the nature of the Sanctorian Perspiration, as it is called, and knows not how much our health depends on the preservation of its just balance, is neither qualified to give directions for preventing diseases, nor to cure them with success.

To regulate and enlarge our ideas on a subject of such importance, Sanctorius, and one or two English writers besides, must be perused with attention.

Suppose a person in perfect health, living in a temperate climate, but not very strong naturally, or not braced up by the cold bath, or long journeys on horseback: let him leave off an under waistcoat, while the weather grows suddenly worse, and the wind settles in a colder quarter: what will be the consequence? An inflammatory fever, or a bad cough, which, with a very little more inattention, ends in a phthisis. Yet, how few physicians enquire into the cause, or are careful to guard the patient against it for the future! Suppose two persons removed to the torrid zone, and landed there in perfect health: let one of them immediately cloath himself in the manner of these climates: what will happen? A checked perspiration, and perhaps the yellow fever; so rapidly is the bile, by such inattention, regurgitated into the blood. In the

the mean time, let our other traveller continue his usual cloathing, or as nearly so as possible: he catches a slight fever, if indeed any, and speedily recovers. These I know to be facts. The old French inhabitants about Mobile and West Florida go abroad in the morning wrapped up in a blanket, and when the sun grows hot, leave it off; but wrap themselves in it afresh as soon as he goes down.

By such care they live to be old men. It is almost pestilential to sweat in summer, and take in the air at the same time, if from the state of the weather it should chance to be cold; for all the effluvia of the body are hurried to the skin by the heat, and by the sudden cold are repelled on the vitals.

Men are particularly apt to be sick in summer, because their stronger perspiration, excited by the heat, is more instantaneously stopped by the cold air, especially at night: hence fevers, fluxes, and other summer diseases, which many physicians impute to very different causes, from their not attending to the Sanctorian Perspiration. It is, by the way, worthy of remark, that those physicians, who are circumspect in what relates to their own perspiration, and that which is closely connected with it, their sleep, are enabled to live healthy in the midst of diseases and death.

From what has been said, it will appear of some importance, to remind the inhabitants of this over-

grown city, that, unless perspiration be rightly performed, health can neither be maintained, nor recovered; that insensible perspiration through the pores of the skin, or by respiration through the mouth, discharges a far greater proportion of our humours, than all the servile evacuations put together; and that much depends on the knowledge how to promote or lessen it according to the wants of the patient. Suppose, for the sake of the experiment, that he is weighed, and that the perspiration is found to be diminished; either this must on the following days be increased, or some atonement must be made by a large sensible evacuation. If, on the contrary, the body returns to the same standard of weight every day, without any change in the quantity of perspiration, no evacuations will be necessary, since a regular state of health will be preserved without them.

SECTION XII.

CLOATHING.

FROM our natural texture, effluvia, more or less putrid, are always passing through the pores of animal bodies. Whatever checks the perspiration of such effluvia, suddenly proves a principal cause of bilious and putrid fevers. The resistance in the extremities, occasioned by this stopped perspiration, completes the cause.

Though

Though it is a disputed point,* whether Hippocrates was acquainted with what is now called the Sanctorian Perspiration; yet he had observed the bad effects of Thin Cloathing, and cautions men to guard against the approaching cold of autumn, by a warmer habit. Celsus gives the same good counsel.

The Dutch have learned, that warm cloathing alone makes their country habitable. The necessity of this doctrine's being understood by the subjects of the British empire in every part of the globe, is really become so serious, as to require the strongest arguments to enforce it; for they have never yet paid it the least attention.†

Having served three campaigns in the British army, and belonged to it for many years, my zeal for its welfare will plead my apology for offering a hint with regard to the very insufficient cloathing of the greater part of our troops.

I have seen above half their number rendered unfit for service, before the campaign was nearly over, by

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* See Archbishop Herring's Thesis on Perspiration.

† Did the natives of Great Britain and Ireland, whose occasions carry them to our West-India settlements, wear short cloth waistcoats, made like those of the hussars, it would in that case be of little consequence, whether they had silk or calico upper coats, or none. Such an expedient would be a better security against the fatal effects of that climate, to northern Europeans, than any method hitherto practised. I have known two or three young men return from Jamaica, who, having never quitted their cloth waistcoats there, never suffered from its diseases.

the short coats of our soldiery. If the mode practised by the 25th regiment, of a light blanket, or a plaid, like that of the Highland regiments, which both defends against the wet, and serves as a blanket in the fields, or in the tents, were generally adopted, it would, I am well persuaded, prove a very great saving of brave troops, and give the King, and his General Officers, a fresh opportunity of shewing their solicitude for the comfort, as well as health, of so respectable a body of men. Some of the German troops, particularly the Prussians, were rendered fit for their winter campaigns chiefly by their comfortable cloathing.* I know a Captain in the navy, of the first reputation, who never unnecessarily, in moderate weather, ordered the sails to be furled while wet; having observed, that the health of his crew was much affected, if he omitted so humane a precaution. Dr. Sydenham observes, that the laying aside of our winter garments too early in the spring, and our exposing our bodies, when overheated, to sudden colds, have destroyed more men than famine, pestilence, and the

* Though the cloathing of the Austrian infantry (a sort of great coat with a cape to it) is more comfortable, on account of its warmth, than the coats of the British infantry, it still has disadvantages, to which the covering I propose is not subject; theirs not being so easily cleaned, and not serving the valuable purposes of a thin blanket in the tents; and what I consider as the worst circumstance of all, those great coats remaining wet on the body, perhaps very much heated by marching. The garment of Dejanira was scarce more deadly,

the sword,† It has been asserted, that Boerhaave's favourite and quaint recipe for health, was to leave off our winter cloathing on Midsummer day, and to resume it on the following. Finally, I am convinced, that the little attention of the army and navy to the article of warmth, and dry cloathing, has occasioned to this country the loss of more people than all our engagements and battles together. There is not, perhaps, any method for preventing the prevalence of putrid fevers so certain, as putting on our winter dress (if we must dress differently at different seasons) in the middle of September, since at that particular period our juices are most disposed to putrefaction; and what is then commonly worn, is by no means sufficient to keep up a proper perspiration of the putrid effluvia.

† De Febr. Intercurrent.

the world. It has been asserted, that Boeckner's
favourite and almost exclusive remedy was to leave
it out winter sleeping on a feather bed, and
to rub it on the following: I am con-
vinced, that the true reason of the cure and relief
to the article of winter, and the following, has
occurred to the country the lot of more people
than all our experiments and failures together.
There is not, perhaps, any remedy for preventing
the prevalence of winter fever so certain as putting
on our winter dress. It is much more difficult to
prevent fever in the winter, than in the summer, and
that particular period our winter is most exposed
to infection, and what is seen commonly, more
to by no means sufficient to keep a proper per-
sistence of the body clean.

CHAPTER II.

CHAPTER II.

CHAPTER II.

SECTION I.

GENERAL SYMPTOMS OF FEVERS ARE FOUND
IN THE PULSE.

IT is certain, that Hippocrates was not very knowing in the doctrine of Pulses; at least, that he has done little more than mention the pulse, without applying it to the treatment of diseases; and that Celsus and Aræteus Cappadox were among the first who paid attention to the pulsations of arteries.

Celsus gives the preference to that physician who was supposed to be best acquainted with the pulse, recommends feeling the pulse in both arms, and remarks, that it should not be felt at the physician's first coming in, lest the patient's solicitude about himself on that occasion should, by affecting it, mislead the observer.

It appears however, that physicians in general were not attentive to the pulsations of arteries before the time of Herophilus, a disciple of Praxagoras, who flourished at Alexandria in the reign of Ptolemy Lagos: he added the doctrine of pulses to
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the semeiotic part of physic; Archigenes improved on him; but to Galen was left the honour of reducing the doctrine in question to an art, of which the knowledge is so important in the treatment of fevers.

Thus much is very certain, that none of his predecessors have described its variations with the accuracy which he has shown. So nice a judge was Galen of the pulse in fevers, that from its perfectly natural state he knew the fever fit had been an ephemera, while in the most perfect intermittent it was not so; for that, when the patient had more or less weariness, head-ache, or pain in the back on sitting up, he had likewise a quicker pulse. It were to be wished our modern practitioners in general could distinguish with equal exactness, instead of affecting to laugh at his accuracy.

It was likewise observed, in the flourishing days of physic, that the pulse was influenced by the age, sex, temper, habit of body, seasons, and state of the mind, no less than of the artery itself.

“The two distinct motions of the artery,” says Boerhaave, “when it is dilated by the blood thrown into it from the heart, and when it is contracted by the elasticity of its muscular fibres, which propels the blood through it, are called the Pulse; so that the pulse ascertains the exact condition of the heart, the disposition, quantity, and motion of the blood; and, by consequence, all

Sect. 1.] FOUND IN THE PULSE. 25

“all our juices, as well as the various state of the artery itself.

“It is therefore evident, that the observation of the pulse is of the utmost moment in diseases.”

See Boerhaave's Inst. Sect. 958.

Nevertheless, how common is it for the physician, feeling the pulse of his patient, to be conversing with him all the while, and on a subject naturally agitating to the latter, who, perhaps, is standing on his feet, instead of being in a position of repose; when the former decides at once with a hasty conjecture on the propriety or impropriety of bleeding, though life or death may be the consequence! No wonder that such ignorant pretenders should deride the use of a pulse-watch, without which, if the pulse beats above ninety in a minute, I am bold to affirm, that the most experienced practitioner, who has never made use of it, shall not be able to say, within seven or eight pulsations, with what velocity the heart beats; when by using such a watch he might determine it with certainty, and often satisfy himself about the time and issue of the fever.

The pulse in health is commonly slow and equal; and the more it varies from that state, the more it marks the diseased state of the body. In a person, of whose blood the texture is healthy, and who is at the same time intirely free from fever, the pulse is generally under seventy in a minute. Sometimes, after an inflammatory fever, it falls to
fifty;

fifty; but the struggle must have been a long one to reduce it so low.

In Putrid fevers, and in the Miliary or Lymphatic fever, the pulse, when the disease is at all manageable, seldom exceeds one hundred and forty-four; and when the danger is over, comes down to sixty, fifty, or even forty-four. I said, When the danger is over; for I scarcely remember, when the pulse was become so slow, to have seen any person under seventy years of age die of a fever, if treated throughout on an antiseptic plan. I said, Throughout; because at this point of time, in long putrid or nervous fevers, when the pulse is come down, and the patient is getting into a state of safety, the antiseptic plan is commonly changed, on a mistaken supposition that the disease requires either a new stimulus, by blisters, or more cordials, (I do not speak of wine) spices, or tinctures made of them; broths, jellies, volatiles, and other foods; and the patient is once more driven out to sea, when he probably sinks, like the ship-wrecked mariner, who perishes in sight of land.

When the pulse is feeble, it shows that the powers of circulation are weakened, or that the body is exhausted, or that the blood is so accumulated in the obstructed vessels, as not to leave, of that which is circulated freely, a sufficient quantity to dilate the arteries.

"The concoction of the feverish matter," says Van Swieten, "and the expulsion of it from the
" body

“ body by critical evacuations, or a deposit to some
 “ particular part, requiring strength of circulation;
 “ it follows, that a weak pulse must always be a
 “ bad omen; as, on the contrary, a strong pulse
 “ must be a good one: and, happily, this last may
 “ at all times be reduced, by blood-letting and
 “ other remedies, to a moderate state, if it should
 “ become too strong; whereas the difficulty of
 “ restoring the vital powers, when exhausted in
 “ diseases, is exceeding great. In persons dying,
 “ the pulse is always weak, and very quick, almost
 “ past reckoning, and at times very unequal in its
 “ beat, predicting but too clearly the approaching
 “ event.” Though it must be acknowledged, that
 about the times of the crisis of fevers, great
 changes happen in the pulse; yet, by attending to
 the concomitant circumstances, those changes are
 easily distinguished from the state above mentioned.

SECTION II.

COLD AND HOT FIT.

FEVERS arising from internal causes are
 generally ushered in by a sense of Cold in
 the back and extremities. This is not the case
 where they arise from violent exercise, over eating,
 too much wine, and other strong drinks, or too
 much venery.

The sensation of cold between the shoulders, as
 if the wind came upon them through a crevice, or

as if cold water was poured down between them, and all along the back, is more severe, and continues for a longer or shorter space of time, in proportion to the severity and duration of the ensuing distemper; so that we can from these symptoms form a tolerable judgment as to the quality of the fever, and the quantity of the danger. It deserves notice likewise, that fevers are more or less dangerous according to the degree of Heat which attends them; for great heat speedily destroys the tender vessels of the brain, lungs, liver, and other viscera, none of which parts can sustain a rapid circulation for any time without suffering extremely.

I have seldom, for my part, been able to ascertain, by the touch, the difference of heat on the skin, on which many physicians depend for distinguishing the different sorts of fevers.

S E C T I O N III.

DIVISION OF FEVERS INTO PUTRID AND INFLAMMATORY.

WE hinted, in the Introduction, what fatal effects attend the mistaking of a Putrid for an Inflammatory fever, and the necessity of distinguishing one sort from the other. Although the symptoms of both may, and actually do, correspond in some particulars, at the beginning especially; yet we hope to mark so strongly their distinguishing symptoms,

symptoms, as to leave the matter less in doubt than hitherto, and to prove, that the physician who is best acquainted with the pathognomonic signs, and knows them at the first seizure, is most likely to treat them with success.

A thorough knowledge of the Diagnostic art lies indeed at the very foundation of a sound practice. Among the writers who have distinguished themselves by their skill in this way; Cælius Aurelianus, a Numidian, who probably lived before the time of Galen, stands foremost, having, as some author observes, painted diseases with colours taken from Nature herself. It must be acknowledged however, that the physician cannot always, at the first visit, say what the disease is. A very accurate observer used to employ the first day of his attendance in acquainting himself exactly with the occasional, antecedent, and present circumstances of the patient's case, without ordering any thing that could disturb the periods of the disease, or interrupt the continuance of its real character and natural aspect: and happy it is both for the patient and physician, when the case is thus an object of attention from the very beginning. We hope then to demonstrate, that the division we have made of fevers, into Putrid and Inflammatory, or a Mixture of both, is just. Of this distinction, and of the general treatment, the experienced and learned Ballo-

nus seems to have entertained a very proper idea.*

SECTION IV.

PUTRID FEVERS.

PUTRID Fevers carry terror in their very name. To explain their nature, causes, distinguishing or pathognomonic symptoms, and to ascertain their cure at large in all their varieties, is the chief object of this enquiry. That such were known or supposed to exist in ancient times, is not even a question. "It is not unusual," says Hippocrates, "to pass from this fever (he had been speaking of the Ardent fever) to that called Lipyria, and, after forty days continuance, to that called Epiala. The Lipyria attacks and remits the same day, attended with a pain in the head: if it is not worn out within forty days, but extended, the pain of the head also continuing, attended with delirium, the patient is then to be purged." In another place, he says, "Lipyrian fevers are not carried off without a cholera, or great discharge of bilious matter." These are proofs, besides what he

* Febres aliæ sunt venosæ, aliæ sunt γαστρικαί, i. e. quædam sequuntur potius venosi generis, quàm vitium humorum in præcordiis contentorum. Quæ venosi sunt generis, hæ primo quoque tempore per phlebotomiam solvuntur; contra, potius cathartico egent: ut non mirum sit, si quasdam febres veluti miraculo tollat phlebotomia, aliæ potius exacerbentur.

Ballonii Epidemicor. & Ephemerid.
lib. ii. p. 78.

he advances in his third Epidemic, and elsewhere, that the old physicians were acquainted with putrid fevers full of crudity, of very long duration, and cured by natural or artificial evacuations of bile.

Galen says expressly, that “ where the juices
“ putrified alike in all the vessels, but especially in
“ the large ones, it was understood to be a Conti-
“ nued, or Continual Putrid fever.” They did not indeed consider, under the name of Putrescency in fevers, such a corruption of the humours as happens in dead bodies, but only a remarkable degeneracy in them from their natural state. We know that even sound juices, either left in quiet, or in a certain degree of heat, or that are very much stirred, acquire a tendency to putrefaction; and that their natural propensity to this state increases in proportion to their motion and heat, though they do not arrive at the strongest degree of it: for their acrimony goes on to affect the brain and cerebellum in such a degree, as to destroy, before the juices turn quite putrid. But the progress towards a putrid state is in proportion to that tendency; therefore a fever is called Putrid, which is owing to more active causes than mere inflammation, viz. to obstructions of the viscera, of the skin, of the capillary vessels, and, by consequence, to a peculiar and active acrimony: for violent exercise, checked perspiration, or crapula, where there is nothing more material, produces an Ephemera, which is cured within the twenty-four hours by abstinence,

or bleeding, or dilution, or a sweat; whereas the other, which is deservedly called Putrid, is owing to a greater degeneracy in the humours from their natural state, increasing in malignity according to their degree of degeneracy. Thus, though the juices are stopped in any particular part, as in a pleurisy, or phrenzy, the blood yet circulates freely elsewhere, and therefore cannot be called Putrid, as the humours are not degenerated materially, and the disease is generally dissolved; while in other cases, the blood having acquired a state that does not admit of its ready circulation, and beginning to stop in the intricate parts of the viscera, all the capillary vessels become obstructed, or at least admit the juices with difficulty, and of course produce great friction, and greater heat; two causes that account for many of the worst appearances of fevers, mortal stasis in vital parts, or perhaps symptoms of the most fatal tendency. When the constitution, climate, season, situation, diet, and other predisposing causes, have prepared a body for a bilious fever, a little more derangement is all that is wanting to excite it. For instance, thinner cloathing, sitting up a whole night, even in healthy air, and in a habit otherwise healthy, gives a check to the perspiration: a small addition of heavy food that is fat, rancid, or coarse, produces a sickness, and this perhaps a spasm in the common gall duct: the consequence is, that the bile regurgitates in a smaller or greater proportion; and an additional
stimulus

stimulus is mixed with the blood; a shivering fit, quick pulse, and heat come on; and thus a Bilious fever is produced. Let the humours be spoiled a little more, and the obstruction of the viscera increased by an improper diet of wild fowl, broths made of long-kept meats, or fish, jellies, &c. the heated habit increases the tendency to putrefaction, and we have the Remitting fever, or the Continual Putrid, commonly called Putrid. Place such a patient in an hospital, and an Hospital fever is produced. Add to this state the anxiety of a criminal about his impending sentence, and the murky air of a jail, and you have a Jail fever. Add infection *sui generis* to unventilated air, or the mephitic of a common-sewer, or of a putrid body, and you have the Scarlet, or Spotted fever, or the Malignant Sore-throat. Once more, produce an infectious state of the air, conveyed immediately from a body ill of the small-pox, pestilential fever, or the plague, (the *Θειον τι* of antiquity) and the Pestilence will ensue. Pay no attention to the necessity of changing the air or bed-linen, give putrescent drinks and meats, heat the circulation by volatile salts or the spirit of putrefaction, and you render the calamity incurable.

S E C T I O N V.

SYMPTOMS DISTINGUISHING PUTRID FEVERS
FROM INFLAMMATORY ARE FOUND IN THE
LOW STATE OF THE ANIMAL SPIRITS.

THE influence of the mind upon the body is universally acknowledged; the share which its affections have in producing the worst sort of fevers has been likewise remarked; but I know not, that the low or equal state of the Animal Spirits, in fevers, has been yet considered as indicative of a putrid or inflammatory diathesis; nevertheless, I believe the attentive observer will scarcely find any symptom more pathognomonic. In the bilious, or putrid fever, the patient is continually taking the alarm about himself, attending to every minute circumstance, and expecting the same attention in the physician, looking for his visits with uncommon impatience, calling continually for cordials or wine on the least faintness, and in many cases expressing an anxiety about himself, which those who are not acquainted with the depressing effects of putrid effluvia, or juices mixed with the circulation, would consider as strong marks of pusillanimity, and which would, even in a female, offend the by-standers, as a piece of affected delicacy. In confirmation of what is now advanced, it is only necessary to observe the sudden dejection of spirits arising from checked perspiration, or any
obstruction

obstruction in the biliary duct. This, perhaps, is a more natural way of accounting, why the affections of the mind produce fevers of the most fatal kind, than by the theory of Spasms, which has filled the schools of physic so much of late: at least, I am sure, that the effect of our prophylactic powder,* in discharging the bile, leading the salts of the blood to the bowels, or to the kidneys, and thereby preventing fevers that were just setting in, corroborates the observations contained in this section.

S E C T I O N VI,

SPECIES OF PAIN.

IN putrid fevers the head-ach is more oppressive than violent; not uniform in its degree, nor constant and unabating; commonly felt as if seated in the bottom of the skull, resembling very much the head-ach so often experienced in a heated play-house, or crowded assembly; and not very unlike that which, in many constitutions, attends the application of blistering-plasters to the body.

It is found more tolerable in a reclining than erect posture.

A pain in the head, such as I have described, and also a pain in the small of the back, except in cases of small-pox or measles, is a general attendant

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on

* See our Forms of Medicines.

on putrid fevers, and may be regarded as a kind of pathognomonical symptom.

S E C T I O N VII.

SICKNESS.

A Variety of causes contribute to the Sickness so common in the beginning of fevers. What these are, should be very well understood; for if, when the fuel of the fever is not contained in loose matter, or adheres to inflamed parts, vomits are given, they prove very dangerous; since with such treatment the patient may die of an acute inflammation. Even Dr. Sydenham did hurt in this case, as he himself confesses. If, on the contrary, the sickness be owing to a load of putrid materials about the stomach, or cæliac system; emetics, and such correctors of bile, as imperiale, oxymel simplex, decoctions of farinaceous substances, or of tamarinds, will be the best and speediest means of removing it.

Where these methods do not take off the sickness, it is a mark of something noxious in the habit, and should awaken the utmost vigilance of the physician.

S E C T I O N VIII.

WATCHFULNESS AND DELIRIUM.

THERE are few symptoms, in fevers, more alarming than Watchfulness. In putrid fevers it is generally the forerunner of Delirium or convulsions; and, if its cause be not very slight, is justly considered as dangerous. The means of preventing or curing it has ever been a chief desideratum in treating the infinite variety of diseases of that class. So much attention was paid to this appearance in old times, that the Father of Medicine takes the alarm at it; and Aræteus, the second great writer of antiquity, was so solicitous to remove it, as to have left very little new to be said on the subject, if chymistry had not paved the way for discovering preparations more adapted to cure it.

“ Watchfulness arises,” says a great physiologist,* Sect. 856. of his Institutes, “ from too strong a
“ direction of the nervous fluid to the organs of
“ sense; from any irritating body, where-ever
“ applied, that twitches these organs, particularly
“ the brain itself; from too great a motion of the
“ humours; from fevers, phrenzy, &c.” And he adds, “ too much watchfulness rubs down the
“ finest parts of the brain, increases acrimony,
“ exasperates the bile, and produces feverish
“ delirium.” The

* Boerhaave.

The causes have been looked for not only in the brain itself, but in that general consent which is observed to obtain among all the nervous parts, as well as in the influence of the stomach and belly upon the head, or of the head upon the stomach and whole system. It was found, that the quickness of the circulation often seemed to bring it on; witness the delirium attending the paroxysms of quotidian, quartan, and even some vernal tertian agues: so that whatever hurries the pulse is apt to occasion watchfulness, which, long continued, produces this symptom. Foulness in the stomach is frequently the cause of it; for it has been often cured by a vomit, where that was indicated by the foulness of the tongue, a bitter taste, vomiting, sickness, and anxiety. It often proceeds from obstructed viscera, infarcted primæ viæ; for a dose of proper deobstruent physic, of neutral salts and rhubarb, shall remove the signs of its approach.

In bilious and putrid fevers the patient cannot sleep, though he is neither prevented by head-ach nor pain: he remains in this state of watchfulness for forty-eight hours, perhaps four or five days and nights, often longer, brooding only on uncomfortable ideas, unable to dwell on soothing ones: the delirium is then at hand, and shows itself in a variety of degrees, mild or less moderate, gay or grave, joyous or melancholy, frightened or unconcerned, outrageous or sullen, according to circumstances. The counsel of the old physicians,
together

together with such considerations, have led medical men to diminish the quantity of humours, by diverting their force to some other quarter, by taking away or abating the stimulus, as by epispastics of leven, vinegar, frictions, or pediluvia, or by diluting and attenuating the humours so as to procure their free passage through every part of the system. What we have found most effectual for this purpose will be seen in the proper place.

S E C T I O N IX.

OF THE COLOUR AND TEXTURE OF THE BLOOD.

IN such fevers the Blood is fused, dissolved, and sometimes quite thin and ichorous. The same sort of blood is taken from those who have thrown themselves into putrid fevers, by swallowing large quantities of spirit and salt of hartshorn, or who have lived long on putrid food, or who have the true scurvy.

In fevers of the putrid sort, such as the ulcerous sore throat, the slow fever, malignant fevers of camps and jails, the petechial fever, or what is called the Spotted fever, blood drawn away at the beginning, and when there are some equivocal symptoms of inflammation, as well as of putrefaction, has a crust of blue, or bluish-green size on the top, and is also often glutinous, while the inferior part of the crassamentum is like liquid
gore.

gore. In less full habits there is no crust on the surface; but the blood, in the looseness of its texture, resembles new-made curd.

S E C T I O N X.

APPEARANCES OF THE TONGUE.

I Once asked a young friend, Whether he had learned to pay any particular attention to the appearances of the tongue in fevers? He answered, "Yes, Sir, that the patient might not think me inattentive to any thing which could help to explain the nature of his disease; but I knew very little of the matter, and none of my masters ever gave me any information on that subject." It is to be feared, that many physical men in this town could not give a better answer. In the mean time, I must be of opinion, that the different Appearances of the Tongue in fevers ascertain the state of the disease, its nature, and the proper mode of treating it, better than even the pulse itself; for while the last discovers the quantity of danger, and perhaps the state of the circulating blood in inflammatory cases, the tongue alone ascertains the quantity of bad juices, the degrees of disorder in the blood and lymph, with the true state of the salivary, gastric, and absorbent vessels, and of all the chylopoetic viscera.

The tongue, in perfect health, is of a pale red, and moist. With this appearance every physician should

should be intimately acquainted; for, otherwise, he will never be able to distinguish its changes from a natural state: in doing which he must consider the point, the sides, the middle, and back part, since all these are variously affected, according to the state of the blood, of the lymph, of the animal spirits, and the time of the fever. The effect of anxiety on the tongue furnishes a curious phenomenon; for in half an hour the delicate pale and moist red of the whole tongue changes into a white or yellowish glare. Remove the cause of anxiety, and the tongue returns to its natural colour.

As the whole set of putrid fevers arise from vitiated juices, and are justly called Camp, Hospital, Jail, Bilious, Putrid, Malignant, or Petechial fevers, according to the degree in which these prevail, so there is scarce any symptom so explanatory of that degree as the tongue.

The tongue puts on all the variety of colours, from yellow, brown, or green, to violet and black, or purple, just as a less or greater quantity of vitiated bile or lymph happens to be contained in the vessels, or intestinal canal. In lower degrees of putrefaction it is of a damask red, which is sometimes moist, so that it shall appear almost transparent. The damask red shall be quite smooth and dry, as if varnished over, when the putrefaction is greater.

It shall sometimes be red, with a tendency to black; and the edges shall be as if they, no less than the tongue itself, were covered with a horny substance: at those

those times, and in this state, it trembles, is put out with difficulty, and the patient generally forgets to draw it in again. These last are marks of the brain's being disordered, and of that alarming malignity which often attends the petechial and jail fever. If any thing is to be done in this case, it is by cream of tartar, and other acescent drinks; by a liberal use of wine, of camphorated julep, spirit. mindereri, and Hoffman's anodyne liquor; by ripe fruits, farinaceous foods, and mineral acids. In such a case, with the skin dry at the same time, I never saw bark answer, whether attended with ulcerated sore throat or not. If the tip of the tongue grows moist, and the hardness on the edges gives way to such medicines, there is still some hope, especially if the comatose appearances come on, and the breathing continue easy.

But where the tongue is of a brown or black colour, scored like a broiled gizzard, quite dry, and out of the power of the patient to extend it, the juices are in their highest degree of putrefaction, and it is almost universally a mortal symptom.

When the tongue appears like a raw beef steak, you may prognosticate an aphthous fever, and will then generally find the aphthæ in the corners of the mouth, or about the velum pendulum palati.

Where the disease has not laid violent hold of the lymph, there is always some degree of moisture on the tongue, with the colours above specified.

It

It is, I confess, very difficult to describe the morbid appearances of the tongue, so as to make them perfectly intelligible; but all those just mentioned may be observed in the variety of putrid diseases, which now infest this country. I say, Now; for our unequal cloathing, our late hours, our highly-seasoned and long-kept foods, our passion for gaming and other anxious pleasures, have brought upon us a fresh and numerous band of putrid and bilious diseases, unknown to our wiser and more temperate forefathers.

S E C T I O N XI.

THE DRYNESS AND BLACK GLARE OF THE TEETH.

WHEN the Teeth have no moisture on them, as if they were dried in the wind, or are covered over with a black glue that sticks so fast as not to be rubbed off but with much difficulty, it may be considered as an incontestable proof of the malignity of the disease.

By showing the brain and nervous system to be loaded with putrefaction, it indicates the necessity of an antiseptic diet, of farinaceous substances, and fruits as well as drinks of the same materials; and even a plentiful use of the mineral acids, of which the muriatic has always with me the preference. The quantity of disease will regulate their dose.

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The matter becoming loose on the surface of the teeth, so as to be easily wiped off, but especially going off without assistance, discovers the abatement of putrefaction, and admits of a happy prognostic.

Baglivi, speaking of the teeth, observes in general, that white and clean teeth shew a good chylification, or an habitual sobriety; that when they grow soon foul and glary, the digestion is weak. He adds, "Take care of the teeth, that you may digest well, and live long: they are the Kitchen of the Chyle."

S E C T I O N XII.

OF URINE, ITS PALENESS AND CRUDITY.

THE kidneys are so constructed by nature, as to cleanse the blood from what is useless or pernicious; not acting like other glands, that change part of the mass into liquors of a different nature, as the body requires, but as secretory organs only: hence the urine has with justice been considered, both by ancients and moderns, a very few of the last excepted, as most likely to furnish a just and perfect idea of the state of our juices, and their component elements. Its scarcity, its acrimony, its colour, its thickness or paleness, not only demonstrate the condition of the humours, and of the disease, but also point to the requisite remedies

dies in the way of watery and diluent drinks, besides showing the degrees of putrescency at which our juices may arrive.

Since chymistry has been understood, and applied to the examination of the urine, we know that it consists of a watery lie loaded with the saline and putrescent parts of the blood, and will be more or less offensive according to the greater activity of the vessels, or as it is loaded with more or fewer recrements of the body.

“Urine,” says the best of physicians, “which is thin and red, and not disposed to settle; that is white, thin, and watery, or straw-coloured, and not turbid at times; or urine that is always turbid, and never settles, shows, in very acute fevers, retarded coction, much crudity, a difficult crisis, a long disease, and the greatest danger; and, in inflammatory fevers of the most acute sort, almost certainly portends death: in moderately acute fevers it indicates a long and troublesome disease.” See Boerhaave’s Institutes, Sect. 1016.

In slow fevers the urine is pale; in the increase of the fever the sediment is sometimes thick, rough, full of scales, and of a whitish colour: this furfuraceous appearance never fails to mark a long disease and a severe struggle, but manageable by great attention.

How much contempt should light on those careless or unconscientious men who come and go to and from the bed-sides of their patients, in every

sort of fever, without attending to the urine, or paying the least regard either to its flattering or fatal phenomena !

S E C T I O N XIII,

COLOUR AND SMELL OF THE FÆCES.

IT is not uncommon to hear the witlings in physic affect to deride an inspection of the Fæces. I have seen a grave physician join in the ridicule. But it is not therefore the less true, that the Colour, Consistency, Materials, and Smell, are all indications of the state of the disease, and the progress of the cure. He who has the care of a jaundiced patient can, by inspection of the fæces, tell whether the medicines have unlocked the biliary duct, sooner than by any other mark, and can surprize the patient, when that is the case, with the promise of an immediate cure. He who can distinguish by the colour and consistency, whether the black or corrupted bile is loosened, which shall often not happen till near the conclusion of a putrid fever, can prognosticate, that the disease is almost at an end ; while those who are regardless of such circumstances, remain almost as ignorant as the lookers-on. Add the satisfaction and utility of knowing that the method of cure is succeeding, When the patient observes the solicitude of his physician about removing the putrid contents of the
intestines,

intestines, he will the more readily assent to a plan which is often, no doubt, very tedious, though very safe, and perhaps the best, if antiseptic purges are adopted, and persevered in with spirit. We may subjoin the advantage of knowing by the smell, whether a fatal prognostic may be hazarded or not.

S E C T I O N XIV.

QUICKNESS AND INEQUALITY OF THE PULSE.

THE old writers reckoned much upon their power of distinguishing by the Pulse, whether the fever was an ephemera, or a continued fever, or a continued putrid fever. In the two first the pulse was equal and strong, not very much exceeding that of perfect health; but in the last it was quicker, and often unequal, as well in strength as in quickness, owing, probably, to the blood's being faulty in its consistence, and at the same time in an acrimonious state.

Dr. Glas suspects, that the quickness of the pulse, in putrid fevers, is chiefly excited by the acrimony of the putrid humour irritating the heart and arteries; and the ancient physicians very wisely regarded other diagnostic signs. A quick stroke of the pulse, with pale crude water, or an unequal pulse, attended with a great and scorching heat all over the frame, was Alexander Trallian's rule for knowing a putrid fever. Those acrid humours in

the stomach which may be removed by a vomit, the cold fit of an intermittent, and the crisis of a fever, they found to produce the same sort of inequality: and Galen established it as a maxim, "that a small and irregular pulse was a mark of the stomach's being loaded with foul humours," M. Med. lib. xii. c. 3.

Those who have weak stomachs, and a weak digestion, have always a small pulse: it is necessary to know the first before we can judge of the last.

The pulse is commonly quick and frequent in a putrid fever.

It was an opinion of Galen's, that when the pulse did not strike hard against the finger, it was occasioned by the putrefaction of the juices.

There is the same sort of pulse in erysipelatous, camp, and petechial fevers.

In nervous and eruptive fevers, attended with oppression, the pulse never fails to be small, frequent, unequal; and then the cause is probably in the stomach and intestines, or originated there. In such cases the pulse grows better in proportion as the stomach is cleared. Purging was found by Dr. Huxham to raise the pulse in the Devonshire colic. I have made the same observation in most putrid fevers.

The quantity of fever and its degrees are generally estimated by the quickness of the pulse.

Having, I think, evinced the peculiar importance of attending most minutely to the state of the pulse,

as one of those circumstances about the sick, that give most light into the nature of the fever, the strength of the patient, and the indications for the cure, I take the liberty again to mention and recommend the Pulse-watch, as the only certain method of forming an accurate judgement with respect either to the velocity or the equality of the pulse, and thereby furnishing a principle to proceed upon, at once satisfactory to the patient and the physician.

S E C T I O N XV.

INFLAMMATORY FEVERS.

THE Greek physicians attended to the symptoms of Inflammatory Fevers, described and distinguished them with such accuracy, and treated them with such incomparable judgement, as to put it out of the power of the moderns to give much additional information.

They knew from reason and observation, that plethoric people, while in the most perfect health, were in the greatest danger; and that hard-working men, and men of strong fibres, were particularly liable to inflammatory diseases: and we know by philosophy and mechanics, that men are plethoric who are in such a state of fullness, that if the humours shall swell a little more by rarefaction, by exercise or heat, the functions of life must be interrupted.

rupted. Wherein is our indication of cure preferable to theirs?

When Hippocrates found that the pleuritic stitch did not yield to one or two bleedings, and that the pain flew up to the collar-bone, he repeated it. When he found that a fomentation to the breast, by rarifying the blood, increased the pain and difficulty of breathing, he knew the necessity of emptying the vessels still more as well as our best anatomists, and let blood as late in the disease as we do. If the pleurisy, or rather the pain in the side, did not begin with rigor, he was as well aware as our best modern physicians, that purging was not less necessary than bleeding. The Greek physicians disapproved of exercise in fevers as much as we can. If they did not take their indications of cure from the fizziness of the blood and synchronism of the pulsation of the arteries, they yet saw not less clearly the necessity of repeated bleedings, even late in the disease, and the risk of internal abscesses from the neglect of them. In short, their rules, both as to the knowledge of the symptoms and the best treatment, equal ours, while their directions about the diet excel them; and I believe in my conscience, that if their country had abounded in beef-eaters as much as this, they would have found the necessity, as much as we do, of not trusting to expectoration in the cure of pulmonary diseases.

Though they were ignorant, that attrition was the cause of heat, that sanguification was performed chiefly

chiefly by the systole of arteries, that the texture of the blood was strong in proportion to exercise, they were equally sensible with us, that the north wind, the winter season, a rigid habit, coarse food, and high living, produced inflammatory fevers of every sort.

S E C T I O N XVI.

SYMPTOMS DISTINGUISHING INFLAMMATORY
FEVERS FROM PUTRID ARE FOUND IN
AN EQUAL AND COMPOSED STATE
OF THE ANIMAL SPIRITS.

HAVING taken notice of their unequal state in a Putrid fever, we have only to observe here, that the direct contrary happens in an Inflammatory diathesis. No anxieties are felt by the patient about the event, and little or no depression, comparatively speaking, from the acute pains in the head, breast, belly, or limbs. We hear no great complaint of the want of sleep; nor does either the tediousness of some rheumatic fevers, or the delicacy of more tender frames, occasion any strong expressions of impatience: neither is there any risk of delirium, unless where the inflammation primarily affects the brain, as in a phrenitis, or when the inflammatory disease is becoming deadly in the very last stage of the fever.

S E C T I O N XVII.

THE SIZINESS AND STRONG TEXTURE OF THE BLOOD.

TO ascertain the genius of the inflammatory fever, the quantity of that fever, and how far the cure is to be rested on the lancet, or to furnish a criterion for judging of the length to which the antiphlogistic regimen must be carried for the patient's certain recovery, nothing serves so much as an accurate attention to the Texture and Siziness of the Blood; a doctrine, which I hope, before I have done, to demonstrate. In inflammatory rheumatisms, in the phrenitis, paraphrenitis, true pleurisy, peripneumony, the Dutch quartan, hepatitis, and some sorts of hectic, we take away blood with a crust upon the surface, of greater or less thickness, whiteness, glassiness, or yellowness: and unless the bleeding has been too long delayed, we find, in most of these disorders, the under part of the crassamentum adhering so strongly or consistently to the crust, that you cannot shake it off, though you lift it on the point of a knife or fork. In the violent degrees of true inflammation you may stir the body of crust and crassamentum for a minute in the serum, before it will tinge the latter with red.*

In

* If this Enquiry should happen to fall into the hands of any gentleman who is fond of Horses, the wealth, and pride of Englishmen, I hope to be excused for repeating here what I

have

In such cases, if you examine the blood after a second or third bleeding, you will generally find the size or crust thinner, its colour more coccineous, or of a scarlet hue, the bottom part of the crassamentum adhering less closely to the surface, and the serum not only in greater quantity, but more easily tinged by moving the crassamentum in it. Nor will you fail to observe an alleviation of the symptoms in proportion to the change of appearances in the blood, the pulse growing softer and slower, and the disease ending (that is, when matter is not already formed, as in a phthisis pulmonalis, internal abscesses, and those of the joints, where venæsection is merely a palliative) I say, ending with a thick water and perfect freedom from fever in a certain number of days, often on the critical ones marked with such precision

have pointed out formerly under the title of Philo-ippus, that high feeding, hurried exercise, and carelessness of grooms, subject those noble animals to the severest inflammations in their blood; that this appears very evidently by the size which is observable on the blood drawn from them; that when it is two inches, or even an inch and a half in thickness, one bleeding is never sufficient to remove the fevers to which violent exercise particularly exposes them; that in all cases of epidemic catarrhs or colds, when there is such an appearance, the drawing away a second quart, or even that quantity a third time, will not only be safe, but becomes absolutely requisite for their preservation, and is infinitely preferable to the hot drinks, Venice-treacle balls, and such hodge-podges of farriers as I have seen kill forty or fifty horses in a few days time, both in the cities of London and Westminster, and in the country of England.

precision by the ancients, and so strangely neglected by many, perhaps I might have said by most, of the moderns.

In inflammations of the liver, the blood taken away has not only a buffy crust, but has the serum tinged with bile as well as the crust; with this difference, that the crassamentum is seldom so dense as in fevers purely and simply inflammatory, but requires the greatest attention to its state, as there is in the human body no viscus in which the disease makes a more rapid progress. Such kind of blood I have frequently seen drawn from pregnant women of a costive habit and a jaundiced skin.

In women likewise about the ceasing of their catamenia, the blood when taken away has the appearance before described: in both which cases repeated bleedings are found necessary; but the last requires deobstruent antiphlogistics instead of mere antiphlogistics, such as sal polychreston, diureticum, or, in one word, the neutral salts. Indeed, without such a treatment, the patients run the risk of abscesses in the liver and other abdominal viscera, which often prove fatal before any indication appears to warrant an artificial discharge, even where it is practicable.

In the last months of pregnancy I have even seen five or six bleedings necessary, till the pulse has been at last reduced under fifty in a minute, and the patient relieved with an efficacy that has surprised

prized the attendants. When the blood is of a thick consistence, and the inflammation is considerable, frequent bleedings are necessary.*

The ancients sometimes ordered bleeding very late in the disease. Hippocrates did so in the case of Anaxion of Abdera on the eighth day. The operation has at least this good effect, that it slackens the fever where it has been performed too late to prevent internal suppurations.

The difficulty of preventing abscesses in the thorax, where a certain number of days have run on with much fever, is a reason why repeated bleedings should take place as soon as the indications are evident: the strength and the danger will ascertain the quantity, and the distances between the blood-lettings.

On the blood of plethoric habits that have fallen into, or become infected with, putrid fevers, there is a crust which has a greenish hue, and so pellucid that the rest of the crassamentum may be seen through it. This appearance ought to put the physician still more on his guard, as one bleeding too much in such a state, where the under part is gory, may, and often does, prove fatal.

S E C.

* In the pregnant state the quantity of blood drawn away should not in general exceed five or six ounces at one time, as the most accurate observers have found bad effects to follow too copious bleedings by the lancet.

SECTION XVIII.

THE HARD AND EQUAL PULSE.

ALTHOUGH it be very true, that many circumstances in the age, sex, constitution, affections of the mind, and size of the artery itself, affect the pulse; it is yet equally certain, that the doctrine of Pulses has a very principal share in the diagnostic art: nor is there any sort of pulses more worthy of our attention than those which are Hard and Equal; for the hard one, if equal at the same time, plainly indicates an inflammatory state of the juices, a fullness of the vessels, obstructions from sify blood in the capillary arteries, and in general a dense state of the blood, accompanying almost every inflammatory fever.

By a Hard pulse I mean, when the artery seems, on being felt, to contain a wire or solid substance within it; of all others, the sort of pulse which is least apt to mislead. It almost always indicates a reduction of the strength. In rheumatic and other inflammatory fevers, where no particular viscus is affected, I have examined the pulse by the watch two or three times a day, for seven, fourteen, seventeen, twenty-one, or even more days together, without finding it vary three strokes in a minute, not even at noon and midnight, when sensible alterations have been said to be observable in the pulse; nor am I acquainted with any symptom
more

more certainly indicative of the existence of an inflammatory fever, than the uniform hardness and equality along with quickness of the pulse : and yet it never must be forgotten, that where the lungs or intestines are obstructed by fizy blood, or real inflammation, you cannot judge of the degree of either by feeling the pulse alone ; for in the inflammation of those viscera, and in the phrenitis after the disease has gone on for some time, but especially when the cerebellum has become affected, the pulse is not found to mark sufficiently either the state of blood, or the quantity of disease or danger : nor can I doubt, but that the worst consequences have often arisen from the state of the pulse's having misled the practitioner in the above-mentioned inflammatory fevers. A thorough knowledge of the nature of fizy blood, and of the consequences which follow its not being drawn away in sufficient quantity in such cases, saves or destroys the patient. There is another mistake, and no uncommon one, attending such a state of the blood, that many physicians, even skilful and reputable men, risk their patient's life to save their own reputation, by not exceeding a given number of bleedings, because the vulgar consider four or five as the utmost length to which bleeding ought to be carried, even in the most pressing circumstances. I believe I shall be seconded by the best judges, in asserting that very many cases occur where double the number of bleedings are not too much, and for which

I never had so good a rule to proceed upon as the crasis of the blood's not being dissolved by the former bleedings, and the pulse's not beginning to shake or grow unequal. From an observable inequality's taking place, I have learned not only that the inflammation is giving way, but that no more blood should be taken. I speak of a change from a synchronism or equality in the pulse.

S E C T I O N XIX.

THE FIXED PAIN.

IMMEDIATELY after the shivering fit, and sometimes even before it, when the fever is of the inflammatory kind, a Fixed Pain seizes some particular part. If the inflammation is seizing the brain, it is of the pulsatory sort, like the stroke of a hammer; so that a lying posture is next to intolerable. If the side is affected, or the organs of respiration, the pain is so cutting as to render a free or full drawing of the breath impracticable. If the stomach or bowels are attacked with inflammation, it is equally insupportable. Where the limbs are attacked, as in the rheumatic fever, the pain resembles the gnawing of dogs, which continues in a greater or less degree while the fever lasts.

S E C T I O N XX.

THE COLOUR OF THE TONGUE.

IN a common inflammatory fever, the whole surface of the Tongue appears to be covered with a kind of muslin more or less thick according to the degree of inflammation. Blood-letting and diluents gradually diminish that appearance, and the natural pale red returns in proportion as the juices circulate with more freedom, and the crisis of the water takes place, which, if you except a few constitutions, never fails to happen in the inflammatory fevers of this climate. In pulmonic diseases I have seen on the back part of the tongue a black soft fur, which lasted two or three weeks after the violence of the disease, and the danger of suppuration, had ceased : but as I knew that those patients had naturally a vitiated lymph, and required a well-regulated diet to restore them to perfect health, I gave them to understand, that till this appearance ceased they were not to think themselves in a state of safety.

S E C T I O N XXI.

THE MARKS OF COCTION IN THE URINE.

SUCH was the inimitable skill of the Great Hippocrates in prophesying the events of diseases, that it was not a wonder he should, in the
times

times of Polytheism, be ranked among their divinities ; for he seems to have possessed so perfect a knowledge of the course of them, as to be able to foretell the very days of their change as well as their issue.

I have never been able to discover any thing in his works, or in the writings of those who have followed his steps, that holds more universally true than the observations they have left us about the Urine in fevers of the inflammatory kind. And I am bold to affirm, that I have seen the progress, safety, and event of fevers marked by the urine with the utmost regularity, where they were not disturbed by meddling too much with Nature's operations for the cure ; notwithstanding we have been told very lately, that " it is but in very few " maladies where the blood, and we might add, " the urine," says the writer, " affords a practitioner much useful information." To such a pitch of scepticism are we arrived ! From what shall we take our indications of cure, or our knowledge of diseases, by-and-by ? It concerns me very little, whether all the critical matter be carried off with the urine, provided it gives me rules to judge of the quantity, crudity, or the degree of Coction, and enables me to foretell, whether the disease is likely to be dangerous or safe, to prove of short or long duration, and when the patient may quit

quit a medicated regimen for his usual modes of life.†

It suits my purpose to make the following remark in this place, That, excepting in two instances, I have never seen any case where the patient did not make thick water, sooner or later, before you could say that he had recovered his former state of health. It has been asserted by Dr. Hillary, in his Account of the Diseases of Barbadoes, that some fevers there, even of the intermitting kind, never show any sediment in the water. I know very well, that there are diseases of the putrid sort, deservedly called *æxiplos*, where the days of the crisis cannot be ascertained by any single appearance, where the patient must have had air and exercise before he can make such; and, I must add, particularly exercise on horseback, as nothing we know so certainly produces it, or so certainly continues to produce it, until the constitution has disengaged the dregs (if I may use so antiquated an expression) of the feverish fermentation.

The particular days of making it have been nearly ascertained. Indications of a complete sediment and perfect crisis on the seventh, shall be

G seen

† There are physiologists who maintain, that there is no such thing as coction or crisis, because people die where there is no materies morbi: "for," say they, "fear, joy, strong passions, or violent cold, produce death." But there is sophistry in this argument; for we daily see the crisis concomitant with thick water, or loose stools, or a plentiful sweat, or all these together.

seen on the third, and again on the fifth. There are now, in this town, many living witnesses of my having prognosticated the times when such was to be made, and the day of the crisis. The seventh day has been, and continues to be, the most common for the termination of many inflammatory fevers. See the Aphorisms of Hippocrates, B. iv. Aph. 71. his *Coacæ Prænot.* i. No. 213. Galen had, in one season, four hundred patients in acute fevers, who obtained a crisis on the seventh or ninth day. Galen de Diebus Decretor. L. ii. v. vii. x. Dr. Sydenham found many fevers ending regularly on the fourteenth day; Bagliivi observed the same thing; and both in cases that were not disturbed by the officious application of remedies, by which they acknowledge that fevers were lengthened out,

Another rule, from which I have not found it safe to vary, has been, that no favourable appearance in a fever, even though it was merely a depuratory one, (see Sydenham) and where the vehemence and bad tendency of the symptoms had been removed by bleeding and an antiphlogistic regimen, could ever prevail on me, when I had the sole direction, (and I had the sole direction in an hospital for nineteen years, where such fevers were very common) to admit of any irregularities in the patient, until the time arrived when the sediment in the water had made its appearance, and set both my patient and myself at large as to his indulgence in living.

It

It is but just to add, that the coldness of our climate, as has been remarked long ago, and the great irregularities in diet, or still greater in practice, produce putrid fevers without marks of crisis that can be foretold in the urine, and diseases whose periods and duration physicians cannot ascertain.

Where the disease is of the inflammatory kind, the signs of a beginning concoction are very often evident: where that is accomplished, the critical disturbance appears, and the critical evacuation follows, which, if perfect, leaves the patient in a tolerably easy state; but if imperfect, either he is not entirely free of the fever, or he continues in danger of a relapse. See Martin's *Essays on the Periods and Crises of Fevers*.

Though it appears from the observations of all the best writers, both ancient and modern, that the solution of the fever does not depend upon what is thrown off by the urine, still we are very often enabled by it to judge of the nature, duration, and issue, of the disease.

It is but just to add, that the colic of our climate, as has been remarked long ago, and the great irregularities in diet, or still greater in practice, produce putrid fevers without marks of coction that can be detected in the urine, and diseases whose periods and duration physicians cannot ascertain.

Where the disease is of the inflammatory kind, the signs of a beginning coction are very often evident: where that is accompanied, the critical disturbance appears, and the critical evacuation follows, which is perfect, leaves the patient in a tolerably easy state; but is imperfect, either he is necessarily free of the fever, or he continues in danger of a relapse. See Richter's Essay on the Periods and Cures of Fevers.

I thought it necessary from the observations of all the best writers, both ancient and modern, that the relation of the fever does not depend upon what is taken off by the urine, but upon what we are very often enabled by the coction of the nature, duration, and state of the disease, to judge of, and to regulate accordingly. I have therefore in this treatise, endeavoured to point out the marks of coction, and the critical evacuation, as far as they can be ascertained, and to show the manner in which they are to be regulated, and the manner in which they are to be supported, and the manner in which they are to be relieved, and the manner in which they are to be cured.

CHAPTER III.

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SECTION I.

OF THE CURE OF FEVERS IN GENERAL.

IT appears from the oldest records of the Greek physicians; that they considered a Fever as a purging of the humours, and a separation of the impure blood from what was pure; that being thus the instrument which Nature made use of to remove from the body whatever impeded its operations, the physician, who was only Nature's minister, was called in to aid, not to oppose or depress her efforts; that he of course was the most able practitioner, who cherished a fever to its just height, and preserved it in that equilibrium which enabled the constitution to throw off the disease; that he on the other hand greatly erred, who attempted to put an end to it before it had accomplished its work; in short, that fevers were not in themselves such formidable things, since, if properly treated, they served to prolong life, instead of shortening it. Thus those masters of the profession found, that a Fever cured the apoplexy; a Quartan, diseases of

the nerves, as palsies and epilepsies; a Tertian, many diseases; and a Continual fever, most. In one word, they looked on a fever not as a foe, but as an auxiliary, which, by dissolving, stirring, and mixing many stagnated humours, that seemed to produce a struggle between life and the disease, brought them to what they called a Crisis: if, on the contrary, the fever ceased before it had performed its office, whether owing to the misconduct of the physician, or to the failure of nature, (i. e. of the whole powers of the body excited) the patient was not cured. But the ancient physicians observing, that in many cases Nature's exertions were so violent as to be productive of pernicious consequences, they learned to restrain her by such means as she pointed out, such as venesection instead of hæmorrhages, or by purgings when they saw her loaded with too much of the morbid matter.

They found her deciding speedily in Ardent fevers, but struggling longer in Slow ones. They observed, that evacuations had a large share in the natural cure of fevers. They discovered, that the various deviations of the fluids from their natural state brought on fevers entirely distinct from each other, according to their different causes, and requiring, like plants or animals, certain spaces of time to bring them to maturity; that one ended by an hæmorrhage, another by a flux, another by a sweat, a fourth by thick water on particular days, and all these in proportion to the circumstances.

They

They likewise remarked, that there were medicines which appeared calculated for carrying off one sort of humour rather than another, and to unload the body of that weight which maintained the disease. Before their observations had led them to such discoveries, they rested the cure chiefly upon a well-regulated diet, which for simplicity and efficacy has not been exceeded since. Chymistry has, no doubt, done much towards introducing a more perfect knowledge of the nature of those agents we employ for the cure of fevers and other diseases: but then its abuse has introduced a wildness of theory, and an inconsistency of practice, that, I had almost said, counterbalance its use.

When there is reason to fear the approach of bad health, the best medicines are rest, abstinence, and watery drinks. By such, even violent diseases, when at hand, may be dispersed. See Galen's third book.

Many are deceived in hoping to remove the languor in the beginning of fevers by exercise, the warm bath, vomits, forced stools, sweating, and wine, because these answer SOMETIMES; but abstinence will NEVER disappoint: so said Galen.

The preservation of the strength, the correction and expulsion of the stimulating acrimony, the dissolution and expulsion of the glutinous lensor, and a mitigation of the symptoms, are the four chief requisites for the General Cure of Fevers. Some of the ancient physicians recommended a fast for the first

first three days. Asclepiades was of opinion, that the sick ought to be weakened by light, by watching, and by intense thirst; not even allowing the mouth to be moistened in the diatricon. Galen called such νοσηματα χειροποιήτα, and with great justice condemned them.

Had he lived in these times, he would have had still more reason to call diseases by that name, though upon very different accounts; indeed the very opposite, too much meat and too much drink.

Feverish heat is taken off by bleeding, muscular rest, tepid watery drinks acidulated with lemon, currant jelly, Hippocrates's simple oxymel, cooling the bed-chamber, opening the bed-curtains, removing thick bed-clothes, and avoiding all stimulating and styptic medicines. Vomiting, from a Bilious cause, is cured by subacid drinks; and from a Putrid cause, by cream of tartar in water-gruel, currant jelly, sorrel, and such like.

As the doctrine of Crises, established by all the best writers in physic, both ancient and modern, is now neglected in general, if not almost forgotten, or its truth barely allowed, it becomes proper that the students and doctors of physic should be awakened to a close attention to the duration of fevers; for, unless physicians mark out to themselves, and to the friends of their patients, the necessity of the disease's going on to Coction, and the time required for fulfilling its career, they can never give satisfaction, nor prevent running after
ideal

ideal plans of an immediate cure and supposed specifics. That the writer of these sheets may not be wanting, on this subject, to the cause of his profession and the conviction of his mind, he is willing to rest his reputation upon the assertion, that unless in the very beginning, or when fevers form themselves under that particular type which comes within the power of the Bark, they cannot be removed by any other known medicine until they have measured out a certain space; that a Pleurisy, for example, requires five, seven, or fourteen days to attain a complete crisis; a Rheumatic fever, fourteen or twenty-one; a Hectic, many more, where no ulceration has taken place in the lungs; a Putrid fever, often still more, perhaps twenty-one, thirty, or even forty: therefore the grand question in the cure of fevers seems to be, When the cooling or antiphlogistic, and when the antiseptic, stimulating, or cordial methods are to be practised; or, where the fever happens to be of a Mixed nature, (which is frequently the case) whether the cooling or the warming treatment is necessary, and at what time of the disease the physician is to give up the one, or adopt the other?

It should be remembered, that there are days which, because they determine the duration of the fevers of one particular sort, have been called the Critical days. These were by the ancient professors observed to hold very regularly in inflammatory fevers; and they continue to do so still, in a greater or

or less degree, even where the management has been faulty.

Let it be added, that we seldom find a resolution of any inflammatory fever without the signs of coction in the urine.

From all these circumstances it appears, that the crudities of our juices require, according to their causes, a limited time to digest them. As the effects of obstructed bile or checked perspiration are seen in the urine, it is not to be doubted, but that the other secretions being obstructed, and the grosser parts regorging into the mass of blood, supplies the urine with materials which will subside when the fever ceases, and which, by digesting under the action of the body, (whether of its fibres, or vessels, matters not) will, with the assistance of proper saponaceous drinks, resolve at last, and bring on an agreeable crisis.

It is of much importance to follow the indications given by Nature, in the beginning of fevers, either for bleeding, or for purging; since by delays the disease becomes more violent, and the putrefaction increases as the strength diminishes, so as neither to sustain longer the force of the struggle, nor admit the use of powerful medicines for the cure.

Fevers that are accompanied with bad symptoms, and continually growing worse, have been considered as Malignant, and are, for the most part, commonly treated with spices, alexipharmacs, volatiles, and all the hot medicines that can be thought of.

By

By this conduct those very difficulties are brought on, which are wished to be prevented.

Where the air, season, situation, and manner of living, produce a quantity of crude and depraved juices, there such fevers are most frequent.

For the duration of those Slow fevers which are long protracted, and which often have no crisis, it will not be easy to give a better account, than that the veins continue to be supplied from loaded viscera and intestines. Thus we have seen Exanthematous and Miliary fevers go on for six weeks or more with a bound belly, because they were treated as above, and the cure was trusted to a sweating regimen, which might have some effect in clearing off what had already got into the blood-vessels; but that was still fed from the first passages.

Bleeding, and repeating it according to circumstances, is the principal part of the cure in Inflammatory fevers; as purging after, or along with, proper correctors, is the point on which the cure of Putrid fevers chiefly turns. It is therefore of great importance to establish plain and intelligible principles for determining when and how often the bleedings are to take place in the former, and what are the correctors and purging medicines that will soonest alter and carry off the materials of the latter: for we have seen before, that, unless the corrupted juices be removed as speedily as possible, the disease must grow worse; and every man of experience knows, that this is often the work of many days,
and

and that it is only particular remedies which will answer such purposes.

What these medicines are, will be shown in their proper places.

I know it will be asked, for it has been already asked, Have the best physicians then no controul over fevers in shortening their periods? To which I answer, Yes, if the disease is of a nature to admit it, by the materials being loose, and having an immediate outlet from the circulation by the bowels or the skin: for instance, in the Cholera Morbus, where the stomach and intestines throw off their contents with violence, the disease may have its duration shortened, because the materials are loose, and can be corrected during their evacuation by farinaceous drinks, chicken water, or what is preferable to either, subacid drinks, as lemonade, imperiale, &c.

It holds true likewise, that where a common Ephemera has been occasioned by a wet coat, hurried exercise, or intemperate eating, a dose of Dr. James's powder, of emetic tartar and manna, or perhaps a copious dilution of the contents of the stomach and of the blood, will prove a cure.

But it does not hold in fevers either Putrid or Inflammatory, where the disease has set in with a hot and cold fit, and the other characters of these fevers which were before delineated.

The common proverb says, It is the physician's business to cure speedily and pleasantly. The ablest
among

among them have been reproached for seeming mere spectators, or at best pilots, instead of putting an end to the fever by some specific medicine, or selecting it from the body as a magnet does iron from the mixed dust of metals. It will be seen afterwards, that we are not in possession of any such medicine; but I trust it will likewise be seen, that we have it in our power to correct the deadly poison, and carry it off gradually, in Putrid fevers, as well as to controul the vehemence of the circulation, and prevent the danger from fizy blood's falling on the vital parts, in Inflammatory ones, until the disease has wasted itself and run its course.

If in what is to follow we can be so happy as to lay down any Rules for effectually accomplishing these purposes, it is all we can pretend to, and indeed the utmost height of our ambition.

S E C T I O N II.

BY BLOOD-LETTING.

IT is remarkable, that all the sick, whose cases are recorded in the first and third books of Hippocrates's Epidemics as recovered, were restored by excretions of the humours from one or more avenues of the body; and that, of those who died, they held out longest (if you compare them with such as had no evacuation) whose juices were thrown off in the largest quantities: from whence
Hippocrates

Hippocrates was probably led to believe, that the cure in those cases should consist chiefly in attempting by art the same sort of evacuation by which he observed Nature relieving herself. Accordingly he found, that the bad symptoms of very acute fevers were taken off suddenly, and with surprising success, by large bleedings: and it is apparent, that his directions about Blood-letting in inflammatory fevers are given with peculiar precision, though we know not what lights he possessed concerning the nature and qualities of the blood. In his book *de Victus ratione in morbis Acutis*, and on the subject of Pleurisy, he says, indeed, "that the blood should be drawn away till it changes its colour to red and livid." Of this however we are certain, that he was not acquainted with the circumstance of the arteries and veins conveying the same species of fluid, though very much changed in its texture, as well as in its colour, by circulating through the lungs.

Aræteus Cappadox, who was in point of antiquity the next to Hippocrates among the Greek physicians, who flourished in the time of Nero, and who probably practised not far from Rome, has improved on the lights furnished by the Founder of Physic, paying great attention to the pulsations of arteries, to the uses that might be made of venæsection and arteriotomy, ascertaining when the first and when the last was preferable, from what part of the body blood was to be taken away with

letting in fevers which arise from what they call a Putrefaction of the Humours,

S E C T I O N III.

BY VOMITING.

AS the best effects have in all ages been observed to be produced, in a variety of cases, by natural efforts of Vomiting, art has learned to imitate them with success. If the bile is poured into the stomach, an intelligent observer enquires, what anxieties, heat, and weakness, have ensued. So long as the bile is retained unconcocted or uncorrected, neither the pain nor the fever can be removed; but when the body is in proper time freed from the bile, whether naturally or by art, the pain and fever vanish of course.

Whatever has gone down by the œsophagus, that can either transude the coats of the stomach, or ascend into it by the pylorus, may be thrown up by vomits; and therefore all those viscera which empty themselves into the intestines, viz. the liver, spleen and pancreas, and also the gastric, epiploic arteries, &c. which empty themselves into the liver by the vena portarum, can be purged of their contents by vomits.

It has been usually regarded as a rule, that vomiting is to be cured by vomits; but this is not universally true; for where vomiting arises from inflammation,

inflammation, it would be the worst of remedies, as bleeding would prove the best. The same observation holds good, if it arose from cancer or schirrhous.

Doctor Sydenham, Boerhaave, and others, observed, that autumnal fevers, proceeding from collections of putrid humours in the stomach, or from summer heat, may, by being carried off by vomits, prevent the aphthæ, tenesmus, and fatal diarrhœas, from happening so frequently in the end of such fevers.

S E C T I O N IV.

BY PURGING.

THE ancient physicians having observed, that fevers were often speedily and completely cured by fits of looseness, they attempted, in imitation of Nature's procedure, to cure by giving Purging Medicines; but still with very great caution: for they perceived that the same purgative had not always the same effect; that sometimes it purged too much; and that sometimes it brought away what it was not wont to do. They always enquired beforehand, whether their sick had taken purges, and with what effect; whether those purges operated slowly or briskly; and they gave gentle or strong purgatives in proportion, being very careful not to exhibit any rashly. They likewise remarked,

that great eaters were often purged as if they had taken phyfic; that some foods proved phyfic; but that habit caused their tendency to be overlooked till the patient was frequently disturbed, or diseases were brought on; and that, if purging medicines were given in strong fevers before the disease remitted, or till towards the end of it, the heat was increased, the purging effect did not take place, or perhaps a jaundice was produced, or such a loathing of every thing as ended in death. For these reasons they were afraid of purging strongly in fevers, especially during the dog-days, giving instead of it glysters, which they found always safe, where they found them necessary. The Parent of Medicine had observed all this, and was besides particularly attentive to the nature of the disease, that he might find out whether one sort of humour was to be carried off or another, as the one or the other appeared to be in fault. Hence the different names of Phlegmagogue, Hydragogue, Cholagogue, Melanagogue, as pituite, water, gall, or black gall, was carried off. He believed at the same time, that the medicine was not without effect on the other humours; and where this attention was paid, or omitted, the cure succeeded, or otherwise. On the whole it was believed, that certain determined humours were acted on by particular purges. Such were the ideas of elective attraction, entertained by the ancient physicians! Nevertheless, there were those among them who supposed the whole

whole effect of a purge to be altering the nature, by lessening the quantity of the blood, and who renounced the notion of specific purges; alledging, that gentler means than those made use of by Hippocrates to purge phlegm or water, bile or black bile, would answer all the ends proposed. Their notions on this subject gave Galen great offence, as they interfered with his favourite plan, and provoked him to appeal to common experience, as well as to his known practice at Rome, (if Hippocrates had no weight with them) and to challenge them to cure a jaundice by an indiscriminate purge, with the same success that he could by a specific one; or to cure a dropsy by bleeding, which diminished the quantity of the blood, instead of curing by a hydragogue. This diversity of opinions among the old physicians has occasioned much dispute among the modern: the anatomists Malpighi, De Graaf, Pechlin, Borelli, Willis, and likewise the physiologists, have taken different sides, as their theories or observations led them.—See Martin's Essays.

If the effects of medicines were confined to the stomach or bowels, much might be said for the support of both opinions: but there are so many proofs of their entering the mass of blood, no less than all the viscera, that it were unreasonable to confine ourselves to any particular system on this subject, especially when we see the effects of rhubarb on the colour and smell of the urine in a few

minutes after it has been swallowed, of turpentine or asparagus on the urine, of cantharides upon the urinary passages and the pulse; and also the powers of the absorbent vessels in the first passages, so visibly affecting the strength and spirits the moment wine or broth has been swallowed by a person exhausted with fatigue. What then should hinder purging medicines from working on the blood, or secretory organs of the liver, pancreas, &c. so as to procure extraordinary discharges from the blood, by disposing the vessels to throw off such noxious humours as want to be expelled, and to restore the body to its healthy state, by striking at the root of most putrid and some inflammatory diseases? The fact is, that we find there are medicines, which, by a kind of elective attraction, are capable of disposing the blood to secrete particular humours, and the bowels to discharge them. It is indeed true, that a great physiologist treats as a mere fancy the opinion of those who think there subsists, in the stomach or pancreas, liver or mesentery, &c. a mass of feverish matter called Fomes; and from whence is poured into the blood, either continually, or at stated intervals, a cloggy ferment which occasions a continual or intermittent fever: and he asks, Why, notwithstanding repeated purges, vomits, diluting broths, which overturn completely the first passages, the gall and pancreatic juice, it yet happens that agues become more obstinate?

for

for which he quotes Dr. Sydenham's authority.*

To this I answer, that neither this eminent Frenchman, nor our English Luminary, had at that time discovered medicines which are found to succeed in our practice. The knowledge of what these are, has been owing partly to accident, and partly to chymistry, which, by teaching us the nature of bodies, and the method of analysing them into their first principles or component parts, have enabled us to judge of the effects requisite to be produced on the humours of the body. There is not a more common symptom in putrid fevers than a looseness. The debility and oppression which attend it, the irregularity and quickness of the pulse, the intervals of freedom from pain in the bowels, the fœtor of what is discharged, all mark its nature, and distinguish it easily from the bloody flux or the inflammatory dysentery. I must add, that there is in general nothing less understood than the proper management of the diarrhœa which attends putrid fevers, nor any situation where more mischief is done by checking the looseness, or more errors committed in the mode of doing it.

We all know, that the whole system of veins and arteries may be emptied in a very short time by the intestines, the biliary duct, or by the mesenteric arteries; and that the materials of fevers deposited

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* Sauvage's Nosolog. Methodic. Class. ii. Gen. & Sp. Morbor. p. 211.

in the mass of blood, as well as in the intestinal canal, may be carried off by the bowels. Of this we have sufficient proofs, in the speedy cure of the cholera morbus, especially if acidulated drinks are used; in the happy effects of ripe fruits given in moderation, particularly of grapes in the bilious flux of armies; and the wonderful power of mineral acids mixed with opiates in this last mentioned disease.*

I cannot allow so favourable an opportunity to pass, without taking notice of what is done every day in fevers in this town.

We have all observed the tendency to a looseness in some fevers, not only in the beginning of them, but even after vomits have been given (our modes of living, particularly in London, make bilious or putrid fevers more common than in Dr. Sydenham's days). In these fevers, whenever any part of the intestinal canal is loaded with acrimony, the pulse is very quick, irregular, and often unequal: the spirits are often depressed from the same cause, especially while the bile is running off by stool.

A notion very generally prevails, that the strength is exhausted in proportion to the number of stools: but the direct contrary is true; for in putrid diseases whatever is putrid, as we have before remarked, is most naturally and readily conveyed off by the intestinal canal. What solicitude have we not seen, even amongst medical men, lest the

* See Storck's Ann. Medic.

the strength should be exhausted in proportion to the number of stools ! and yet how much mischief have we found to arise from checking the looseness ! More fever, a quicker pulse, greater depression, more delirium, and a longer disease. Who, that has been in an extensive practice, is ignorant how many days must be run through for correcting and letting loose the putrid materials ; and how many stools must be procured, by antiseptic correctors and purging medicines, in fevers of twenty or thirty days duration (frequently above a hundred) to discharge from the habit what quickened the pulse to a dangerous velocity, and kept the body in a state of great debility, the limbs in tremors, and the brain in an unceasing reverie, till the body, like another salamander, rises with fresh vigor out of that very fire which threatened to destroy it ?

S E C T I O N V.

BY FEBRIFUGE MEDICINES IN GENERAL.

IT does not appear, that the oldest of the Greek physicians had adopted any ideas, like ours, of Medicines which could put fevers to flight, and which we term Febrifuge. Their attention to the operations of Nature, and her modes of relieving herself, induced them rather to copy her, than presume to shorten the process, as modern physicians undertake to do : but they were incomparable judges

judges how far bleeding, vomits, purges, &c. contributed to relieve. As to the foods and drinks which Nature craved, all these they applied with a skill that would have left us little to add, if their philosophy or chymical knowledge had kept pace with their spirit of observation. In the days of Hippocrates and Aretæus, they had their barley-water and barley-cream, their hellebore, castor, and wine. Under the Roman empire, Celsus, Pliny, Galen, Cælius Aurelianus, and many others, whose opinions have been handed down to us by those whose works have escaped the ravages of time, discovered peculiar virtues in particular drugs, and began to adapt them to the head, lungs, liver, stomach, or bowels, according to their different theories, or as different humours were supposed to prevail, or be in fault. Their *Materia Medica* was become considerable in the time of Galen, Dioscorides, and Alexander Trallian. From all these last named many of our best medicines have been taken; but they still continued to look for the crises of diseases, and were more employed to guide safely than to cure speedily, knowing well that Nature could do the remainder.

Such was the state of medicine before chymistry began to be cultivated at large; for, though it was of ancient date, it yet furnished but few preparations for the cure of diseases, until the Europeans brought it, in the thirteenth century, from the
Arabians,

Arabians, who had made a study of it for three hundred years.

Albertus Magnus, Roger Bacon, and others, applied it chiefly to alchymy, natural magic, and the mechanic arts; but Raymond Lully, towards the end of the thirteenth century, wrote on the universal medicine, quintessences, and on mercury.

About a century before the time of Paracelsus and Helmont, lived Basil Valentine, a very expert chymist, who wrote the *Currus Triumphalis Antimonii*, commending its preparations for every purpose of medicine; an error, which, while it is regretted by some of our best chymical writers, is adopted by too many in this country.

Every one, who is in the least degree acquainted with the history of chymistry, knows what changes were brought about in the practice of medicine by Paracelsus and Helmont, whose skill in the decomposition of Nature's productions, and acquaintance with many of the elements of bodies, tempted men of spirit to shake off the fetters of Galenical and Arabian systems, which had so long enslaved the schools of medicine: for they found they could not now have recourse to powers which seemed not to depend on regular plans of bleeding, purging, &c. but which cured at once the leprosy and pox, while regular practice was disgraced by it.

These writers, and the chymists of that period, flattered by the discovery of such powers, particularly in mercury, antimony, and diet drinks, began to
look

look out for an universal medicine, which might extirpate all diseases from the human body, restore perfect health, and maintain it to a very great age. Though this doctrine was discovered to be ill founded, and its abettors, notwithstanding their boasted possession of an elixir against old age, died very early; yet it was not to be wondered, that mankind should be flattered by such an hypothesis, while the old physicians were much disconcerted to find all their studies of the causes, symptoms, and treatment of diseases, rendered entirely useless, if there indeed existed a Medicine which could be applied to every case, and cure in all circumstances.

At last the lovers of sound philosophy, towards the end of the sixteenth, and beginning of the seventeenth century, applied to the study of medical chymistry, by which they were introduced to an acquaintance with the elements of bodies, and of course to the knowledge of various artificial as well as natural compositions, which they brought into the practice of medicine.

In many cases they were enabled to judge, *a priori*, what changes might be thereby produced in the humours of the body; and no class more naturally became the object of chymical enquiries, than Saline substances, by which they understood in general such as were soluble in water, and of a sapid taste when applied to the tongue. They divided Salts into Simple and Compound, and those again into Acid and Alcaline; understanding, by the first, such

as had a sour taste, and turned syrup of violets red; and by the last, what effervesced with the above acids, and turned syrup of violets green. Their alkaline were again divided into Volatile, which flew off in a vapour, and Fixed, which remained so in the fire. They learnt, that compound salts contained an acid, combined either with an alkaline salt, a metallic, or an earthy substance. When the acid was combined with an alkali, it produced a Neutral salt, that will not effervesce with either acids or alkalis.

Such observations incited them to examine with care those salts in particular which had, time out of mind, been employed in preserving animal substances from decay; I mean the different sorts of sea salt, sal nitre, or sal armoniac; and they applied their elements to different purposes, as they observed or reasoned about their antiphlogistic and antiseptic powers, till they had established their utility, and taught us to look for sovereign efficacy from their exhibition. Who, for instance, can now doubt of the spirit of sea salt's possessing very considerable antiseptic powers, that has seen its instantaneous effects in curing cankers in the mouth, stopping the progress of gangrene in the malignant fore-throat, and conquering the worst symptoms of putrid fevers, given inwardly, and properly diluted? Who, that has seen alkaline salts stand the heat of a furnace undissolved, yet melt so readily with sand into a glassy substance, which
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again becomes almost impermeable to the most active menstrooms, can dispute their energy? Who, that has seen gold, silver, and other metals, melt away in aqua regia, aqua fortis, and other solvents, can withhold his surprize? Who, that has observed ores give up their metals with such good-will to the mixture of fluxes chiefly made of saline substances, can doubt of their penetrating nature and extensive operation? Who, that has witnessed the effects of alkaline salts, or soluble tartar, in dissolving the most tenacious gums of myrrh and lac, can question their force in dissolving biliary concretions, vitreous humours, and the long list of ill-digested substances contained in our vessels? No man, that has experienced the soothing and cooling effects of sal nitre, when worn out with pain and thirst, or Riverius's saline mixture, when heated by fever, or restless almost to despair, can sufficiently admire that art which taught us to investigate and combine such powers. No man, that has felt fevers of the most depressing sort, loading his shoulders, and ready to light on his already-aching head, removed in a few hours by sal polychrest and rhubarb, as if by miracle, but must be struck with their effects. And who, that has tried in vain, by all the variety of sudorifics, to moisten the skin in the course of putrid fevers, till he applied to Mindererus's spirit, will hesitate a moment to acknowledge its diaphoretic and composing qualities?

Finally,

Finally, Who that has seen the powers of soluble tartar in procuring sleep, and preventing or carrying off delirium in fevers of the worst kind, or its efficacy in restoring so many poor wretches from ideotism, melancholy, and madness, to sense, to hilarity, and reason, can forbear to bow his head with gratitude, first to Heaven, and then to chymistry, for teaching us to combine this heaven-sent gift, and use it with so much success?—N. B. I have seen twenty-five patients recovered entirely from madness by tartarus solubilis.—See a Prussian physician's account of its powers in cases of madness, whose name I have forgot.

Having shown the wonderful virtues of saline substances in the cure of fevers, and believing it will be found in the following section, that we are in possession of but few Specific febrifuges, I would earnestly recommend it to all the lovers of the Healing Art to make themselves intimately acquainted with the nature of essential and neutral salts, of the powers of acids and alcalis, of the qualities of tartar, and its various and excellent preparations, if they wish to correct, to change, or to evacuate, our diseased humours, with satisfaction to themselves, and utility to their sick.

I am well aware, that some eminent physicians teach very different doctrines concerning neutral salts, and consider their virtues as merely purgative, affecting the contents of the intestines only, and allowing them no merit, unless given in large doses

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at the time of the accession of fevers, or as sedatives; condemning them as hurtful in putrid fevers, and asserting, that giving them too constantly may be hurtful, by prolonging the fever. I leave it with posterity to determine which of us is in the right. Had they only maintained, that they increase hypochondriacal symptoms, or that they do not act as sedatives in flatulent and nervous habits, I should willingly have subscribed to their opinion.

I must express a wish on this subject, that those gentlemen, who furnish medicines for the sick, would either take the trouble to prepare their neutral salts themselves, or endeavour to become better judges of their being properly prepared by others, as the interests of the sick in fevers are deeply connected therewith.

S E C T I O N VI.

BY SPECIFIC FEBRIFUGES.

THAT Nature has, in her store-house, Specific medicines which cure diseases without our being able to account for the process, is a truth which none can call in question, while it is known that bark and mercury are so much used, and their inexplicable powers so well established. It is to be observed, however, that such knowledge has, with the assistance of a heated imagination, and an innate desire of the people of this climate to remove evils
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in their embryo state, made them flatter themselves, and, what appears less excusable; tempted physicians to join in the conceit, that fevers may be charmed away at the word of command, without having leave to run their natural course.

We know very well; that a fever fit, produced by more food or strong drink taken in than the stomach can dissolve into good chyle, may be cured immediately by a vomit, or strong purge; because it removes at once what would not obey the force of the digestive powers: but surely such cannot deserve the name of a Fever Powder.

We likewise know, that where the mischief has been accumulated in the veins, whether it be fizy blood, or has been collected by the habit from the intestines, and deserves the name of Bile, or Putrid Fomes, our most famous nostrum-mongers either apply their specific with manifest disadvantage to the patient, by increasing his fever if from fizy blood, or do not succeed in the cure till the habit in the natural course of the disease, or the medicine by its repeated efforts on the intestines, remove the cause by a bilious flux, or enable it to evaporate through the pores of the body. And this I maintain, that unless where the juices have by the season, the age, or the diet, become sufficiently fluxile, or the fever has put on an intermitting, or at least a remitting appearance, neither the so much cried-up fever powder, nor the tartar emetic, nor the other nostrums, of which antimony is the acknow-
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ledged basis, nor even the bark itself, can effect a cure: for I call not that a Specific Febrifuge, whose action is not evidently and speedily discernable from the reduction of the pulse, the disposition to balmy sleep, a craving for food, marks of coction in the urine if the fever be of the inflammatory sort, and a clean tongue. It were, however, unfair not to acknowledge one advantage of antimonials, namely, the heart-felt sickness generally attending their exhibition; whereby the patient is secured from taking down so much beef tea, chicken water, &c. &c. with which nurses and others pamper their sick, lest they should be starved for hunger, at the very instant that Nature abhors such cramming.

We shall afterwards see, and it is but just to show, what are the real, and what the supposed, powers belonging to the class of specific medicines; and first of the bark.

S E C T I O N VII.

PERUVIAN BARK.

IT is a fact well known, that there never has been any medicine in such general use, or which has been applied to such a variety of purposes, as the Peruvian Bark.

Every year has brought to light new powers in this medicine: but it is equally true, that every day evinces the abuse of those powers; for, like a

two-edged sword, it cuts on both sides; and we cannot but regret, that it should be so wantonly employed by so many unskilful hands. Let us examine its history from its first introduction into Europe, separate matters of fact from idle hypotheses respecting it, and endeavour to lay down a few maxims about its use, both general and particular; that we may, if possible, prevent in some degree the very great misapplication of one of Heaven's most valuable gifts to mortal men.

The virtues of the Peruvian bark were first experienced in Europe about the beginning of the last century. Before the end of that, in the days of Sydenham and Morton, its powers of curing intermittents, and some remittents, were, by their skill, in a great measure ascertained. In the beginning of this century we meet with accounts of its having been given for uterine complaints with success. It was tried as a preservative against diseases at the same time; but was thought to produce a bloated look, and a melancholy habit, and also to prevent the growth of children.

About that period many learned men of Wratisslau, Newcrantz, Sennertus, Rhodius, and others, hoped it might be tried with efficacy in malignant fevers, as well as in intermittents: but through some mistake in the timing of the exhibition, or some mismanagement in the dose, by certain English physicians, Lower, Short, and others, its powers fell under suspicion; and it was again laid

afide till Francis Tortus published, in 1712, his valuable book on its virtues in curing pernicious fevers, &c. However, these very virtues were still controverted by Ramazzini, Mangetus, and others, till conviction established truth.

In 1755, its use in mortifications from an inward cause was discovered by Mr. Rushworth, of Northampton.

For malignant fevers of a particular sort Carolus Richa recommended it, in 1720, in *Constitutione Taurinenfi*.

In 1731 it was recommended by Mr. Rushworth to the governors of the surgeons company, and tried with great efficacy, by the principal surgeons of London, in mortifications both with fever and without it.

Under the article of May, 1735, published in 1738, Dr. Huxham, of Plymouth, has the following remarkable passage: "I have at length
" learned, that the milder astringent aromatics,
" by strengthening the crasis of the blood, and of
" the vascular fibres, were the true alexiterials for
" this disease, (a contagious fever raging at that
" time in Plymouth) at least towards the end of it;
" and perhaps it might be its antidote: and for
" that purpose, after the greatest increase of the
" disease, I gave a medicine of Peruvian bark with
" fit alexipharmacs acidulated with Mynsicht's
" elixir of vitriol, and did not expect in vain a
" laudable sediment, and even a lateritious one,

" as

“ as it is called, especially if I had observed the
 “ smallest remission in the disease.” This observa-
 tion is made with medical skill and singular precision.
 It were well if our present physicians looked on
 with as much temper and precaution, and acted
 with as much skill and acumen in the exhibition of
 this medicine. What a happy effect would it not
 have on the Bills of Mortality in London, where
 the bark is poured in as if it possessed an absolute
 dominion over every fever, whether putrid or
 inflammatory, in every state of the blood, with
 every appearance on the tongue, and at all times
 of the disease ! What follows from the same wri-
 ter deserves the closest attention, “ If then the
 “ bark be powerful in a particular gangrene, why
 “ not in an universal corruption of the humours,
 “ where black exanthemata, (eruptions) vibices,
 “ and the very quick putrefaction of the corpses,
 “ shew a gangrenous diathesis of the blood ?”

Dr. A. Monro gave it first for the bad small-pox.
 about the year 1740, from which time it has come
 into general use in that disease, in which however
 it is often abused. It was discovered, in a single
 case, by Sir John Pringle, to be useful in malignant
 diseases ; and he afterwards gave it with success in
 a great many.†

It is no unusual practice, to give the bark with
 advantage in the whooping-cough of children ; but

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there

† Sir John Pringle on Army Diseases, 4th Edit. p. 320.

there are cases in which it will not succeed. Hear our very respectable author, lately quoted, on this subject.

“ In January, 1744,” says Dr. Huxham, “ the whooping-cough was epidemic. Bleeding never was so necessary, even in the tenderest children; where it was not uncommon to meet with fizy blood. In these circumstances the Peruvian bark did not so happily succeed; which indeed is perpetually the case, where the blood is very thick and tenacious, or apt for inflammations. Hence it is given in pleurifies and peripneumonies most iniquitously.”

“ If there be inflammation in the habit, Peruvian bark is very improper, as it increases obstruction; nor does it answer where any particular viscus is obstructed, or matter lodged. See Boerhaave’s own Commentary. He says, in another place, “ Wherever there are symptoms of true inflammation, I will not give the bark, nor similar medicines, unless I see the cause of it digested off: for, if I should give the bark sooner, scirrhus and the worst obstructions would arise; which I have seen in an epidemic fever, where there was inflammation about the liver, where those who took the bark grew pale, and on the least pressure to go to stool had their liver burst, and died.”

“ The bark will fail in a gangrene, if the vessels be too full, or the blood too thick; but if the vessels be relaxed, and the blood
“ resolved,

“ resolved, or disposed to putrefaction, either from
 “ a bad habit, or from the absorption of putrid
 “ matter, there the bark is specific. With the
 “ same caution are we to use it in wounds, viz.
 “ chiefly in the cases of absorbed matter, where
 “ it infects the humours, and brings on a hectic :
 “ but when inflammatory symptoms prevail, the
 “ same medicine, by increasing the tension of the
 “ fibres and fizes of the blood, a state very
 “ different from the other, has such consequences
 “ as well may be expected.”—See Sir John Prin-
 gle’s Appendix, 4th Edit. p. 30.

Had the same attention been continued to the
 time and propriety of exhibiting the bark, that was
 paid in Dr. Morton’s days, or in Dr. Sydenham’s,
 we might have been able to say with the former,
 “ That we had given the Peruvian bark for
 “ twenty-five years without having observed the
 “ least bad effect, excepting a dullness of hearing,
 “ which lasted only during its use, and that we
 “ never repented having given it ;” or to aver with
 the latter, that, “ notwithstanding either the vulgar
 “ prejudices, or those of a few better-taught men,
 “ no mischief had arisen from it to the sick, not
 “ even a suspicion of mischief ; unless that some-
 “ times they fall into a scorbutic rheumatism by a
 “ long-continued and repeated use of it.”

Dr. Morton recommends it in the small-pox and
 measles, towards the declination of the disease,
 that is, when the fever remains after the eruption of

the morbid poison, and begins to appear as a continual remittent. He also asserts, that desperate phthises have been protracted for months and years by its use, so as to fit the patients for their usual business, though not sufficient for their perfect cure. But let it be remembered, that this powerful febrifuge was not given, in their days, for every disease, as in ours: not that we of this island are singular in the abuse of it, foreigners having fallen into the same mistake.

“The Peruvian bark,” says Geoffroi, “deserves
“to be called the Antidote of Fevers, as it cures
“all intermittent, remittent, continual, continent
“fevers in both sexes, and all ages, in infants,
“boys and girls, middle and old age. In the case
“of virgins, of pregnancy, and of lying-in, it
“may be given most safely and most innocently.”
The very same Geoffroi asserts afterwards, “that
“the bark is unable to drive away inflammatory,
“putrid, malignant, and pestilential fevers; and
“that in such circumstances the physician’s art
“ought to lie in reducing the disease to such a state
“as to be managed by an antidote for fevers.” Had
Mr. Geoffroi confined himself to this maxim alone,
That the bark does not always extinguish pesti-
lential fevers, or those of a malignant sort, without
great difficulty, but that, given with judgement, it
speedily and safely cures intermittent and remittent
fevers, we should have understood his opinions
sufficiently, without much minding his reasonings.

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Were the use of the bark confined to intermittents, the mischief might be more than counterbalanced by the good effects : but such is the temper of Englishmen, that what is good in some cases, is tried in all. Hence, with so powerful an instrument, arise innumerable evils ; and to increase the misfortune, those who add their mite to its acknowledged effects, talk so vaguely as to leave the decision to chance, which, with the bark, perhaps oftener than with any other medicine, is death or life to the patient.

From these observations on this medicine it appears, that in intermitting fevers, where the body has been properly prepared by vomits and aperient medicines, it scarcely ever does harm, unless Where the continuance of the fever is necessary for purifying the body ; that in remitting fevers it was found serviceable, by Morton and others, very early in this country, a proper attention being paid to the times of remission and the mode of giving it, on which subject Morton and Torti should be consulted ; that as the same causes, which produce remitting fevers, being exalted by a greater quantity of putrid ferment, produce fevers more putrid and more malignant, these require yet more the assistance of so powerful a febrifuge ; that the marks of dissolved and putrid blood, becoming more manifest by the number of putrid symptoms, call for its use even where the remissions are not marked by shiverings, sweats, or sediment in the water ; and that
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the characteristics of malignity always call for its use, except where some peculiar sign of its disagreeing prevents going on with it. If the tongue continues moist, or does not grow drier on its exhibition, it is a very good apology for continuing its use, though at first it should appear ineffectual; but where the skin grows dry, and the tongue more parched, I believe it never answers; and we ought to look out for some new indications to cure by some other means. In such cases, Mindererus's spirit with camphorated julep, vinegar-whey, wines or negus well acidulated, will be an excellent succedaneum.

I have seen two or three malignant fevers, where the paroxysm was only marked by anxiety and anguish about the precordia, where the bark saved as by the hand of God. Such was the case of the Hon. R.—t D——d.

Sir John Pringle has given us an excellent general rule about it in a putrid diathesis. "If the vessels are relaxed, and the blood resolved, or disposed to putrefaction, either from a bad habit, or from the absorption of putrid matter, there is the bark specific."

We have seen on the contrary, that when inflammatory symptoms obtain, the same medicine, by increasing the tension of the fibres, will always do more or less hurt; that where it has been found serviceable in rheumatic fevers, it has been towards the end of the disease, when the blood vessels have been

been sufficiently emptied, or the state of the juices have been altered by the duration of the fever, or by the method of cure; that therefore in general, where the brain, lungs, liver, or any of the viscera are inflamed, as well as where the general mass of blood is fizy, it is found to do much mischief. But it is likewise true, that as its specific powers will not always cure the intermitting class of fevers, so its tonic or antiseptic will not take place in every instance.

Finally, we find it has been applied with extraordinary success to a variety of purposes; and yet we see it has been attended with the same fatality which is so common to every thing possessing great qualities. If its too general use has not hurt its reputation, it has at least interfered with its success.

SECTION VIII.

ANTIMONY AND ITS PREPARATIONS.

IF in our opinions concerning the effects of Antimonial Medicines, and their powers over our frame, we were to be determined by the use made of them in these days, we should be led to conclude, that all the writers on physic, from Hippocrates to this hour, whether physiologists, chymists, or physicians, had penned their works to amuse and impose on mankind, rather than to instruct them: for, according to what we are now taught

taught to believe, Antimony in one shape or other, either by its preparations, which are known very generally, or in nostrums, of which it is the acknowledged basis, contains a power of curing fevers of every sort, whether inflammatory or bilious, putrid or malignant, petechial or pestilential, as well as slow and lymphatic ones, without respect to age or sex, the time or quality of the disease. In it likewise is to be found the panacea for the gout and the cancer, or even, as a lively writer expresses it, a Cure for all Incurable, no less than curable diseases. I mean not in what I have said, or may say, to deride or depreciate its real virtues, but only to enquire what this Proteus is, and whether plain facts, or ingenious fancies, ought to guide us on this subject.

Antimony was known to the Greeks, to the Latins, and Arabians; but we leave it to the chymists to trace it through its various degrees of mildness and of violence.

It is agreed on all hands, that the sulphureous part of crude antimony differs little or nothing from other sulphurs; that whatever powers are attributed to antimony, must therefore depend on the reguline part; and of course that this last, like other metallic substances, can only act upon the human body by being changed into a saline state, becoming soluble by vegetable acids, by fermented liquors, or meeting such in the stomach.

On

On this principle its preparations may be reduced to two classes.

First, Where the regulus is not united with an acid, but combined with a certain proportion of its sulphur.

Secondly, Where the regulus is united with an acid.

Of the first sort in use are, the crude antimony, Kermes mineral, sulphur aurat. antim. glass of antimony, and, by the addition of nitre, crocus antimon. liver of antimony, Boerhaave's mild emetic, Pulvis Jacobi dictus, the fever powders of the royal infirmary of Edinburgh, and the calx antimon. Pharmacop. Londinensis, or diaphoretic antimony.

Of the second sort, combined with the vitriolic acid, is antim. vitriolat.; with the nitrous acid, bezoardic mineral; with the muriatic, butyr. antim. and mercurius vitæ; or with the vegetable, emetic wine and tartar emetic.

Although emetic wine seems to have only a small portion of the antimonial regulus dissolved in it, yet it varies much in its strength. The same observation is true with regard to the essent. antim. of Dr. Huxham, prepared with glass of antimony, as well as what is prepared in the Antimonial Cup, which has determined physicians to prefer the emetic tartar, (antimony in solutis principiis) of which the dose, whether it be made with the crocus metallor. or vitrum antim. may

be

be more certainly ascertained; at least, that preparation of it, which is most soluble in a given quantity of water, is the strongest in its effects. We all know, that the basis of a powder famed for the cure of fevers is the regulus of antimony, perhaps with a small addition of some mercurial calx. The world has looked on with surprize at its real or supposed effects; and it probably, like other medicines, will lose a part of its reputation when its preparation is exactly ascertained. In the mean while it is probable, that the tartar emetic can perform every thing which seems to be effected by the powder in question; and we will venture to say a few words on this, of which we know the preparation, that will weigh in a just balance the merits of all antimonial preparations. Paracelsus, Helmont, and others, having with their chymical preparations cured some diseases which had baffled the skill of regular physicians in the sixteenth century, mankind were prompted to seize with avidity any thing that promoted a cure, and which they could practise without regard to time, diet, or other circumstances; but the early exit of those boasters of a universal nostrum for health and longevity, and the disappointments that followed them, brought people back to their reason, till Peruvian bark was introduced into Europe, and cured often, as if by magic, not fevers only, but a variety of other complaints, as if it was the universal medicine hitherto looked for in vain. It was

was found however, in many instances, to have its disadvantages, and disappointed expectation when the seasons, crudities in the primæ viæ, and caco-chymy, or fizy blood, with full vessels, rendered it improper : but what is immediately to my purpose, and a sufficient reason for mentioning this medicine here, the world conceived from it new hopes of a catholicon in the cure of diseases, at least, of fevers.

Borelli, Boerhaave (in the latter part of his life) Sauvage, and many other physicians of great repute, within these last fifty years observed, that fevers wore some appearances which did not suit with the ancient theory of morbid matter ; particularly that affections of the mind produced fever or sudden death, not to speak of many spasmodic affections which came on instantaneously, and went off without any sensible evacuations according to the old rules ; that an ague could be set aside by preventing the cold fit ; that a sweating fit, brought on by any means very early in the disease, seemed to remove the fever. Struck with these facts, they endeavoured to find out a new theory that should explain at once their system, and adopted antimonial preparations as best according with it.

The famed Fever Powder completed the mystery, and physic has actually begun to be seen once more as it was by Helmont and his school. Numbers at least are of his opinion, “ That it is the
“ part of a skilful physician to neglect the crises of
“ diseases ;

“ diseases ; for that Nature only effects a crisis in
“ certain periods when she is left to carry all the
“ burthen alone ; in short, that he should conquer
“ the disease before the crisis, and neither expect it,
“ nor attempt to mark it.” He adds, “ that
“ having written no fewer than seven books on the
“ crises of diseases, he gave them to Vulcan.” Such
is his figurative stile. As he was vain enough to
boast, “ that he could stifle the infant malady in its
“ cradle,” so he scrupled not to pronounce, “ that
“ no one deserved a physician’s name who was not
“ possessed of the same powers.”* Such were the
doctrines of his time ; nor are they uncommon in
ours.

No sooner is a fever heard of now-a-days, than
every proprietor of a packet of the Fever Powder
commences physician, from the Countess down to
the Cocker, directs its dose, and undertakes for the
cure ; without considering whether it be only a fever-
fit of the hour, brought on by yesterday’s intem-
perance, and heat from loaded intestines ; or
whether really an inflammatory fever fallen on the
lungs, the brain, or the intestines ; or a putrid
one, attacking the head with delirium and con-
vulsions. The effect corresponds with the cause :
if feverish symptoms were hanging about the
patient, and the materials were loose, and as yet
only in the intestines, what magic is there in this
powder, that a vomit, a purge, or a fit of the
choler,

* See Helmont de Tempore. de Febribus.

choler, did not equally possess in the days of Galen or Alexander Trallian, as well as ever since? But in the case of fevers truly inflammatory, affecting the stomach, intestines, liver, or lungs, attended with full vessels and a hard pulse, good Heaven, what havoc do not antimonial vomits and antimonial nostrums, indiscreetly used, make among your works! If, on the contrary, the putrid materials have entered into the mass of blood, and are riveted there, though I have no very particular objection to the use of this or any antimonial medicine, as the emetic wine or emetic tartar, whose dose and effects we can ascertain, which is not the case with the above; I yet contend, that these alone will not carry off the fever perfectly till it has run its course; and that in such fevers the plan I have proposed, of correctors and antiseptic vomits, or other evacuants, is not only equally safe, but more certain, in their intended operation.

It has been asserted indeed, that the ancient opinion of a materies morbi is a mere hypothesis, and that Coction and Crisis are only words of course, because passions of the mind, as joy and grief, or cold, and other sudden causes, produce death, or because bark cures an ague without any sensible evacuation; that by consequence fevers are only spasmodic affections marked by certain paroxysms, or having certain boundaries; that there are some diseases, which, by their immediately affecting the nervous system, occasion fevers and prove fatal, where neither the blood nor bile were originally in

fault. But we would ask those who entertain this opinion, Why four, five, or more bleedings are necessary to cure a pleurisy with certainty and safety; why a bilious or putrid fever goes on for three or four weeks, attended with a looseness during the greater part of the time, if the patient is not destroyed before that period by cordials, blisters, or broths, till perhaps on the last black stool or two the nervous system grows quiet all at once; or why, before such a fever shows a regular beginning by the shivering fit (or what we would call a *Formed fever*) the symptoms of its approach, as restlessness and uncomfortable dreams, dryness and heat in the palms of the hands and soles of the feet, and head-ach, with oppression of spirits, are, as if by magic, cured instantaneously by a medicine which unlocks the hepatic system, and which shall be mentioned afterwards in the Section upon the Prevention of Fevers? We likewise wish to be informed where the *Catholicon* is to be found, that cures the symptoms of inflammatory fevers, with fizy blood, by taking off the supposed spasm all at once; that quiets the pulse, or cleans the tongue, without the aid of the lancet. Peruvian bark will not cure; nor will serpentaria nor seneka root in our climate; nor yet will antimony, nor such medicines as Dover's powder, or any other physician's powder, antimonial, mercurial, or a mixture of both, in any shape. The famed fever powder did not cure in Lady D——k's case, though
given

given nine days running: it did not in J. S—h, Esquire's, though given six days; and it did not in many more where I was present.

That a popular nostrum, or other preparations of antimony, often get the credit of recovering the patients, I well know; but then the preceding disease had run its course, or the bad symptoms, for the consequence of which honest and experienced physicians will not answer, had at the instigation of Ignorance and Impatience frightened the anxious relations into the hands of rash nostrum-mongers, about the very time when the powers of Nature had restored her. If such applications were confined to situations where better help cannot be obtained, or where the antimonial preparations find the materials of putrid fevers loose, as they very often are on board of foul ships in hotter climates, and often towards the end of fevers in this country, the indiscriminate use of such medicines, in proper doses, might be excused: but to see uninformed boys, or men whose education should teach them better, employing in every case, and with so little attention or judgement, tartar emetic, antimonial wine, and every species of antimonial calx, as if they alone contained the universal medicine; and to see them do this, although they find the pains increasing, the sweatings, vomitings, and purgings, thereby induced, not curing, nor even mending or diminishing the original disease, is sufficient to excite a mixture of

pity and indignation in every one who merits the title of either Physician or Philosopher. I speak to what I have observed times without number.

SECTION IX.

BY SUDORIFICS.

IT was remarked in ancient times, as it has been ever since, that some fevers of the worst kind were relieved, or went off, with profuse sweatings; and that probably, wherever Art was able to copy Nature, the same relief might be thereby obtained, or, in other words, the poisonous matter expelled. Before the middle of the sixteenth century, Paracelsus and his school gave up venesection and the antiphlogistic regimen in fevers, and introduced the hot and sudorific one, attempting to cure by specific nostrums of this sort, instead of using means that struck at the cause.

Haller complains with justice, that the same method still obtains in Germany. His master Boerhaave made the same complaint with respect to Holland. I may venture to add, that this pernicious practice prevails in an enormous degree in England, where hot medicines have not less prevalence, under the names of Cordial confection, Contrayerva, Serpentry, and Seneka roots, Gascoign's powder, Bezoardic powders, &c. I have been sometimes tempted to think, that a month's

month's pestilence would scarcely make such havock in this city.

In hot climates, where the blood is of a less compact texture, fevers often run their course in a shorter time. Nature, with a more rapid process, digests the morbid matter, and throws it off by the skin, or, as we see in some agues, by an eruption appearing about the mouth. Any hot or spicy medicine given during this effort, and seeming to aid the constitution in expelling what was supposed to be a poison, got the reputation of being an alexipharmac. It is true, that some of the best physicians have condemned, and continue to condemn, the pressing of sweats, as very hurtful in fevers, except when they are pestilential: but, if Sudorifics must be practised, why not use those that are antiseptic, or relax the vessels of the skin, as barley-water, oxymel, orange, lemon, and vinegar and wine whey, or tepid vapours applied to the skin, which cannot be attended with any of the ill consequences of spirituous liquors, spices, &c.?

SECTION X.

CORDIALS.

MANKIND are in general agreed, that whatever sustains or repairs the strength of the body, is a comforter of the heart, a Cordial or Cardiac, whether it be food, drink, or medicine: but there is not in physick any subject that seems more liable to misapprehension, nor any that is generally less understood. A difference in climate, situation, season, country, fashion, and may I be allowed to add, in party, often contributes to puzzle the case. Whatever increases the force of the heart, and consequently the force of the circulation, is considered by many writers, and more practitioners, as Cordial; and yet nothing can be more erroneous; for, in inflammatory fevers, accelerating the motion of the blood diminishes the strength of the patient.

Give a man, for example, wine or meat in a rheumatic fever, with fizy blood, and you certainly increase the vehemence of the symptoms, and weaken him at the same time. On the contrary, empty the vessels that are too full by bleeding, relax the vessels that are too strict by diluting drinks, and both the bleeding and dilution prove true cordials; for by both the blood is left to circulate more freely. Surely this is common sense, as well as sound philosophy.

No

No man will say, that a patient just seized with the choler (a common disease of the autumn over all England) requires meat and drink, because faint and oppressed: he vomits frequently, perhaps twenty times, and purges twice as often, with the assistance of common drinks, as tea, water-gruel, or imperiale, which last is better than either in such a case. What is the effect? He becomes less oppressed, and sensibly stronger, though so much emptier; and recovers immediately. Did this patient, because he was oppressed, require meats or wine as cordials?

In the beginning of putrid fevers (and many putrid fevers come upon a full habit) the patient abhors, without knowing the reason, foods which easily putrify, but pants after acid drinks and fruits; and such are allowed by some physicians who follow Nature. Oranges, lemons, citrons, grapes, peaches, currants, nectarines, are devoured with eagerness and gratitude. Can the distillery or the apothecary's shop boast of such cordials?

I said that the patient, if left to his natural feelings, abhors foods which easily putrify, as flesh meats much boiled, or sodden for a long time, particularly the meats of carnivorous animals, rapacious birds, rapacious fishes, broths, and jellies made of their eggs. Such likewise may be reckoned acrid vegetables, the cruciform and umbelliferous plants, spicy pickles, &c. all which produce foetid belchings, loathing of food, bitter tastes, offensive smells,

nauseas, heartburns, bilious vomitings, heaviness of the head, or loaded stomachs.—See Sauvage's *Pathologia Methodica*.

It deserves notice, that all stimulating substances and warm cordials are peculiarly improper during the rigor with which many fevers begin, and particularly where they are strong in proportion to the length of that rigor, and the cold fit. In such a state, by diluting and relaxing at the same time with the most watery drinks, the cold fit will terminate sooner, and the patient be thrown into a relieving sweat much more effectually, than by the warmest cordials.

Nothing can be of greater consequence, in the treatment of fevers, than the discovering when there is too much stimulus, and when too little. In general this may be ascertained by the pulse; for while that is accelerated above its just pitch, from eighty to a hundred and forty in a minute, surely the circulation requires not an additional spur. When the pulse is about seventy, or under it, we will shew at what time, and in what circumstances of putrid fevers, that prince of cordials, Wine, may be given for supporting the strength, and keeping up the circulation. We have delivered our opinion of fruits and acidulated drinks when the pulse is above eighty. On the subject of hot medicines hear our English Hippocrates. “It is
“to me sufficiently evident, that the fever alone
“brings heat enough along with it to prepare the
“feverish

“ feverish matter for coction, and that more intense
“ heat is not to be called in by any hot regimen
“ from without.”—Sydenh. p. 141. Edit. Genev.

The second sort of cordials are such as increase the motion of our fluids. But is it not apparent, that in the beginning of fevers these move so briskly as to require no new stimulus? Yet scarce a day passes, in which some new provocative to render the circulation more rapid is not added to our *Materia Medica*; for what good purpose, it is not easy to imagine: nor is it easy to account for the enthusiasm that, in a country so enlightened by learning, and so turned to enquiry as this, prevails respecting the powers of particular nostrums or favourite drugs: nor is there one in the whole catalogue, to which this observation is more applicable than the Cordial Confection; Ladies and Nurses, Apothecaries and Physicians, all joining in the error, as if by universal consent, and believing that it alone can enable Nature to accomplish all her works with efficacy and success. Let us for a moment review its composition, and see what can be done by the intrinsic energy of its ingredients on the human frame.

The fresh tops of rosemary, juniper berries, cardamom seeds without their husks, zedoary root, and saffron, have their tincture extracted by twelve pounds of a small spirit, which is ordered to be evaporated to two pounds and a half (by which
many

many of their finest parts must necessarily fly off) to which the following ingredients, reduced into a very fine powder, are added, to make the whole into our renowned catholicon, viz. two ounces of cinnamon and nutmegs, and one of cloves; two pounds of fine sugar, and sixteen ounces of compound powder of crabs claws, in the proportion of twelve ounces of the tops of the crabs claws to three of prepared pearls, and three of prepared coral: that is to say, the lives of our families and friends must be committed to a testaceous powder and the virtues of aromatic and carminative oils, which every chymist knows contain all the peculiar powers of such substances, as in proportion to the strength of those oils their spirit is acrid, inflaming, heating, exciting to the animal spirits, and stimulating to the nervous system. In cold and watery constitutions, in hypochondriacal and flatulent complaints, or in old age, when given with caution and skill, either singly or combined—in such cases we readily acknowledge them to be generous, and perhaps powerful, as well as safe medicines; but their application in every kind of fever, where heat, motion, or inflammation, are apt of themselves to go too far, we hold pernicious. What then are we to think of giving them in ardent fevers? and yet, may I be permitted to ask, in what fevers are they not given, and poured in, to half an ounce, or even much more, in the space of four

four and twenty hours for several days together, by men of whom better things might be hoped?

Because the people in hot countries use spiceries with every thing, does it follow that such are to be used indiscriminately in habits overwhelmed with fizy blood, or where fevers are fed by putrid juices accumulated in the primæ viæ, the meseraic system, or the veins?

S E C T I O N X I.

D I E T.

IT has been matter of surprize, that the Parent of Physic ordered so few medicines for the cure of diseases, while he paid so much attention to the Diet of the sick. His book on that subject will ever remain a monument of his skill, for the many masterly directions contained in it, though little regard is paid to them in modern times; as our best physicians have remarked in terms of just disapprobation.

“ By the obstinacy of nurses, and mean indulgence of weak physicians, in every sort of fever, even the most acute not excepted, the patients are allowed broths, made of one sort of meat or other, all hours of the day; and chicken, which they will not allow to be meat, is likewise given.”
Such is the complaint of the ablest physician of his time,

time, known by the name of The most fortunate Riverius.

The practice of allowing the same kind of food to all feverish patients, and leaving so important an affair to old nurses, or only forbidding abstinence from coarse foods, is animadverted on by a learned and judicious commentator on the Greek physicians, who, with great reason, condemns the general want of attention in our times to their rules for curing fevers by Diet. He adds, " The same mischief is
" done now as formerly by improper diet, while
" the vulgar do not, for want of judgement,
" distinguish what share of that mischief is occasioned by the mismanagement of the patient, and
" what by the neglect or ignorance of the
" physician."

What would be the astonishment of any young physician, who had carefully studied the observations of the Hippocratic school both in ancient and modern times, but who had seen few sick, to hear at the first consultation, that while the patient had been bled perhaps repeatedly, according to circumstances, and to the best rules laid down by the first writers, there was no objection made to his being fed, as at a feast, with broths, beef tea, jellies, river fish, and perhaps chicken, tripe, or veal, instead of panada without spices, barley water, oxymel, hydromel, and currant jelly! Had this same young physician made himself master likewise
of

of anatomy and physiology, so as to become acquainted with the powers of the viscera, the nature of the gall, the pancreatic juice, the doctrine of chylication, the quantity of putrefaction generated by heat in animal bodies, the speedy assimilation by which foods of a putrescent nature supply more disease, &c. would he not be tempted to think that all he had read was intended only to mislead, or that physicians now-a-days were strangers to some of the clearest and oldest principles of their profession? If he should happen afterwards to meet with those who had dared to make the dietetic plan coincide with the antiphlogistic, in which bleeding to its proper extent was accompanied by drinks made of barley and other farinaceous substances; in which a distinction was made between weakness and oppression, between the diet of a fever in the beginning, and the treatment of it about its height; in which too a close attention was paid to the appearances of the blood, to the Juvantia and the Lædientia, to disease in the veins, or to fever fed by the juices in the celiac system; it is not very difficult to imagine in what manner he would be struck by a comparison of two modes of practice so strangely different.

Hippocrates preferred his barley water in fevers to every sort of diet, on account of its sliminess, sweetness, and equal consistence; as moistening moderately, as washing away every thing that ought to be washed away, as neither binding nor disturbing

disturbing the belly, nor swelling the stomach ; and as a food sufficiently light, and weak at the same time.

These observations on the misapplication of foods in fevers should be understood to refer to the inhabitants of London or Paris chiefly, the improprieties I have mentioned being much less prevalent elsewhere.

But in those great cities the evil appears to me too serious not to call for this public testimony of my disapprobation. Indeed, if a stop is not put to it, the Healing Art must degenerate into an ignoble monopoly.

Wherever climate produces immoderate heat, benevolent Nature has taken care to relieve its parched inhabitants with fruits or juices adapted to their situation. The people of Spain and Portugal, of Turkey, and Asia in general, live on grapes, peaches, nectarines, figs, melons, and rice. Those who live within the Tropics have their woods, or groves, filled with orange and lemon, citron, and other delicate fruits. As they approach nearer the Line, they have also pine-apples, chaddocks, and cocoa nuts. On such they live in health, and by such they recover when sick. What might we not learn from them in dieting our sick ? Nature too points the way. A man in a fever pants after every thing that can quench his thirst ; and when oranges, ripe fruits, currant jellies, are craved by his feelings, and swallowed with delight, must he be oppressed

oppressed with broths, and loaded with spices and volatile drugs?

It appears then on the whole, that the food in a putrid fever should consist of barley, rice, oatmeal, wheat bread, sago, falop, mixed with wine, lemon, orange, citron, or chaddock juice, jellies made of currants and other acescent fruits; and when broths are thought absolutely necessary, which probably happens but seldom, they should be mixed with currant jellies, citron, lemon, and orange juices.

The same diet is proper where the diathesis is inflammatory, but without wine.

Having already seen the effects produced on our juices by heat and cold, by seasons, situation, and climate, it will not be difficult to ascertain in what cases that, which may not be improper food at one time, may be highly so at another. Animal flesh that has been fed on vegetables only, and not long kept, as well as broth made of it and mixed with lemon juice, may, on recovery, be used more safely than the flesh of those fowls or birds which feed on fish, worms, and insects of different kinds, and which are among the highest luxuries of the Epicurean race; I speak of geese, ducks, pigeons, moor-game, snipes, plover, woodcocks, &c. especially if they are kept till almost corrupted.

Sea fish brought to the London market are scarcely a proper food in such circumstances, being more or less tainted before they can be presented

on

on our tables. River fish, as smelts and the flat fish, may, no doubt, be used with less hazard; but in general they are fed on animal substances, and we all know how much sooner they become putrid than flesh meats, especially in the summer heats.

Indeed, where people's veins are, like those of Holland, filled with vegetable substances, fish must be acknowledged to do some good, rather than much harm; and perhaps they might be used after fevers of the inflammatory sort, if taken in great moderation, especially where the habit has been accustomed to them.

S E C T I O N XH.

CANTHARIDES.

THERE is not perhaps in the whole circle of physic any thing so little understood, and so frequently abused, as the application of blisters in fevers; nor any thing, of which the indiscriminate use is followed with more sudden and fatal effects, concerning which there is less disposition to receive information, or where physicians are more apt to resign their understandings to the prejudices of the vulgar. How many patients have we seen in the first, second, or third days of both putrid and inflammatory fevers, hurried into delirium, mortifications of the brain, and their dreadful consequences, from this very cause!

Under

Under these circumstances I know not any way in which the cause of medicine can be so much served, as by exposing so general and so mischievous an error; for which purpose I have here collected most of the lights that sound theory or experienced men have furnished on so interesting a subject.

As far back as the days of Dioscorides, we find the following circumstantial account of the effects of Cantharides given inwardly: "From the mouth to the bladder all the parts feel corroded; there is a smell of pitch, or of cedar; the right side of the præcordia is inflamed; the urine is passed with difficulty, and blood is sometimes thrown off with it; membranes are rendered by stool, as in a dysentery; the sick are oppressed and have loathings as from a debauch, are seized with faintings, troubled with giddiness, and at last become delirious."*

"The powder of Cantharides mixed with blood just drawn away," says Baglivi, "turned it into a black and rather livid serum, when some of the same blood, not mixed with them, underwent no such change.†

"‡ The original serum was also rendered more liquid, and so diluted as scarcely to be coagulated with heat."

For the fatal effects of tincture of Cantharides thrown into the jugular veins of a dog, see the same author; and particularly how much a dilution, with twelve pound of common water, diminished

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* Cap. I. Lib. vi. † Cap. I. Exp. iii. ‡ Cap. I. Exp. iv.

the complaints. The effects on dissection were very particular: the viscera remained entire; but all the blood of the viscera and vessels became very black, very loose in its texture, not at all coagulated, with little drops of oil on its surface: the bile in the gall-bladder was blackish, and there was no mucus left on the inside of the bladder. Let us now see what happens by the application of cantharides to the skin as Blisters.

In fevers the pulse is made quicker and more frequent, at one time fuller, at another more contracted; the dryness of the tongue, thirst, and heat, are increased; the bladder is in many cases tormented with strangury and bloody water, sometimes coming away in drops, and sometimes totally suppressed; the mucus of the bladder is now and then passed; and where such effects have been produced by blisters, the bladder has, on dissection, been found ulcerated: therefore it cannot be doubted, that the acrid parts of the cantharides, by entering the pores, produce similar effects with the internal use of them; acting as a true solvent of the blood, changing it into an ichorous state, and filling it with such acrid salts as are always disposed to go off by the kidneys, exciting more or less pain continually, and wasting the mucus which lines the bladder and urinary passages.

On their application in cases of delirium, Baglivi observed, that the pulse grew obscure, though formerly

formerly large and deep; and that the arteries only returned to their former manner of beating when the salts of the blisters were washed off by the kidneys, which is generally the work of more or less than three days, according to circumstances.

Experience proves, that wherever the salts, which ought to be carried off by the urinary passages, are retained in the blood, the urine is thin and watery, and the head or brain affected: but of such salts cantharides are full. Deliriums follow the retention of salts in the blood; the head is most affected by Spanish flies, next to the urinary passages; and as it is evident, that where the head is most affected in fevers, there the blood is most dissolved, is it not reasonable to conclude, not only that blisters are unnecessary, but that, in fevers with dissolved and acrid blood, where disorders of the head and nerves are so frequent, blisters will induce them more speedily, and render them more violent?

The most sanguine advocates for the use of blisters allow, that they often bring on wanderings and startings of the tendons, or at least increase such symptoms.

On the whole, to apply the greatest solvent of the blood where it is already too much dissolved, to increase the acrid state of the juices by the most acrid salt, and to excite by the briskest stimulus the arteries already agitated above mea-

sure, we may with Dr. Glas affirm, is contrary to right reason and common sense.

It is regretted, that Dr. Glas's excellent Commentary on Blisters is not published in a language better understood by many of those whose department among the sick is so considerable.

Dr. Gilchrist, though prepossessed in favour of blisters, acknowledges, that they exasperated all the symptoms of the nervous fever described in the Medical Essays of Edinburgh, by making a sufficiently full and soft pulse small and contracted, as long as their effects remained in the blood; and that the same appearances recurred as often as their application was repeated.

“ At a time when colliquative fevers raged at
“ Rome,” says Baglivi, “ the Galenists proposed
“ to draw off the poisonous qualities of the blood
“ by blisters in great numbers; but in fact the
“ consequences were, greater delirium, convulsions,
“ increase of fever, abscesses in the viscera, and
“ death; the mass of blood being more dissolved,
“ and rendered more acrid, by the caustic salts of
“ the cantharides.” He adds, “ Where, with
“ delirium attended by an acute fever and a dry
“ tongue, blisters were applied in the hospitals, all
“ the patients quickly died, and mostly in convul-
“ sions.” Would to Heaven, that, admonished by
such distressful events, we may take time, and
learn to use only cooling antiseptic emulsions, or
bleeding when necessary, which would probably
happen

happen but seldom; and then, like that great man, we should have the joy of prolonging, instead of shortening, the lives of multitudes!

When, my countrymen, will ye begin to practise the discretion recommended by one of the wisest physicians that ever wrote? "Si quid movendum est, move: si nil movendum est, ne moveas." How many authorities might be quoted in support of this doctrine!

Mercurialis had the good sense not only to inculcate the most mature deliberation previous to the application of blisters, but to condemn the indeterminate use of them in all sorts of fevers. The ancients used even sinapisms only in fevers attended with drowsiness, oppression, or lethargy, carefully avoiding them in others; "Therefore," adds the author last mentioned, "if our blisters are stronger than their sinapisms, how shall we account for using them in so undistinguishing a manner?"

Besides the testimony of these writers, we find others of the first reputation, who assert, that they have seen evident mischief done by blisters, in promoting putrefaction.—See Tissot de Febre Bilios. Lausann. Van Swieten on Boerhaave's 75th Aphorism; Carol. Richa on the Putrid Fever of Turin; and Bianchi from Guidott.



SECTION XIII.

BY RECTIFYING THE AIR.

WHEN a human body of ninety degrees of heat is surrounded by an air of forty-five degrees, almost one half of its natural heat is taken off at once. In fact, human bodies can by an air cooler than their own temperature be cooled more speedily than by any medicines or liquor given inwardly; and the only question is, Whether it can be done with safety?

The air that is drawn into the lungs should be cold and moist, while the body is so well covered as not to have the necessary perspiration stopped. For the same reason the bed and bed-chamber should be large, and never without a chimney; the shirt and the bed-linen often changed. I have frequently wondered how the German physicians can go on allowing their patients to live in rooms where the air is so heated and spoiled by their stoves. It is, no doubt, a favourable circumstance for the Germans, that they are not such devourers of animal food as the inhabitants of this island.

It is the opinion of Dr. Arbuthnot, to whose ingenious account of the Air, and its effects on our bodies, I refer the reader, That renewing and cooling the air in a patient's room, by opening the bed-curtains, door, and windows, in some cases letting it in by pipes, and in general the right management

management of air in the bed-chamber, is among the chief branches of regimen in inflammatory diseases, provided still that the intention of keeping up a due quantity of perspiration be not disappointed.

By the officious and mistaken care of silly nurses in this respect, the disease is often increased and lengthened, or even proves fatal, especially in strict habits. Numberless indeed are the mischiefs which arise from depriving the patient of cool air; the changing of which, so as to remove the putrid steams, is most of all necessary in putrid diseases.

Let it be added, that many great effects and sudden alterations may happen in human bodies by their inhaling outward air, with all its qualities and contents; and that this, perhaps, accounts for epidemical diseases better than the checking of perspiration merely.

It will be likewise adviseable to try the effects of fixed air externally, as well as internally, in cases of putrid fevers, in the manner, and by the apparatus, invented by the learned and ingenious Dr. Priestly, and communicated to the public in his Directions for impregnating Water and other Drinks with Fixed Air,—See pag. 18, 19, 20.

SECTION XIV.

OF THE CURE OF PUTRID FEVERS IN PARTICULAR.

HAVING endeavoured in the first and second chapters to point out the general Causes of Fevers, and the particular Symptoms that distinguish the Putrid from the Inflammatory, which, according to their more simple or complex nature, take rank as Bilious, Putrid, Camp, Hospital, Jail, Petechial, Malignant, or Inflammatory; and having spoken above of the Treatment that is alike applicable to both; I now proceed first to speak of the Cure of the Putrid Fever in particular, to which I hope it shall appear that our general doctrine of an antiseptic plan will apply, with an universality greater or less, and nearly in proportion to the degree of degeneracy in the humours.

The ancients having seen, that choler or bile thrown upwards, or going downwards with hurry and violence, did in many instances speedily carry off scorching heats, great thirst, foulness of the tongue, great sickness, intolerable anxiety, oppression, and debility, as well as pain in the stomach and bowels, very wisely encouraged the discharge by diluting drinks, by vomits that shook the whole body, or purges which they found, or had been taught to believe, were calculated to discharge particular humours. They could not indeed discover, *à priori*, what would correct this or the other

other offending or vitiated juice, but observed very accurately what seemed in fact to do good or hurt. The moderns know, by their acquaintance with chymistry, that vegetable acids and acescent fruits correct putrid bile; that mineral acids, properly diluted, preserve animal substances from putrefaction and decay: and yet the stomach and intestines shall often be loaded with corrupted materials, and the blood almost putrified in the vessels, without our having the attention to enquire whether either of those acids be at hand, or the skill to use them, where even the very existence of the patient depends upon it. I speak to what I have seen.

Those same ancients, whom so many professors of physick now-a-days affect so much to despise, learned from experience alone, that melons, fruits, oxymels, were good in putrid fevers, by being correctors of bile (which was their general name for putrid humours, whether green, yellow, brown, or black) and therefore recommended and gave them, while we (I speak of the greater part) withhold them, from a fear of their griping, or from a notion of their insignificance.

In short, if we will take the trouble to consider what foods, drinks, and medicines, are best fitted to change or carry off those juices which disorder our whole frame, hurry our circulation, discompose the nervous system, and oppress by their remaining in our bodies unevacuated or uncorrected; of all which circumstances our acquaintance with
chymistry,

chymistry, and a more copious materia medica, should make us sufficient judges; we shall be convinced, that our practice is never so sound as when it resembles most that of those masters of antiquity, whose works rendered medicine a science, and gained themselves immortal renown. Besides the aids derived from correctors and medicines which empty the stomach, intestines, and all the viscera that can be cleared upwards or downwards by their nearest and most natural outlets, it has been found that a part of such diseases may, with the assistance of proper diaphoretics, be discharged through the skin; and that repose, whether natural or procured by proper sedatives and opiates—that abstinence from all promoters of putrefaction, fish and meat, volatile salts and acrid vegetables—that indulgence in a due quantity of wine, and avoiding the abuse of blood-letting, and blisters made of cantharides or other septic substances—that all these, I say, have their share in the cure of putrid fevers, as will be seen in the following sections.

S E C T I O N XV.

V O M I T S.

THERE are a variety of medicines now in use for unloading and shaking the stomach, of which the most gentle are infusions of carduus benedictus, or flowers of chamomile. In
bilious

bilious vomitings a little lemon juice in warm water, or cream of tartar drink, are preferable to bitter infusions.

Where it is necessary to clear the stomach effectually of its contents, the powder of ipecacuan root, or its infusion in water or wine, which is better, as being less acrid, than the powder, will prove sufficient; but where the habit is to be shaken, or viscid matter to be loosened, antimonial wine and tartar emetic are preferable: nor have I any objection to Dr. James's powder for such a purpose, if you can be sure of its vomiting.

If vomits of the common sort were given towards the end of putrid fevers, I doubt not but they would in many instances tend both to loosen the materies morbi, and throw it off with more expedition; but this would require a proper regard to the other symptoms, as well as to the strength of the patient. The doses of each are so well known, that I need not say more on this subject.

SECTION XVI.

ANTISEPTIC PURGES.

WE have already seen that the doctrine of Purging in fevers of the putrid kind is not new, though difficult; and that it has been practised occasionally by old and later writers; but the mode of doing it daily till the patient

patient has obtained sleep, has not, so far as I know, been recommended by any; nor has the nature of those remedies, which correct and carry off at the same time, been considered as it deserves, though such seem, I had almost said, alone able to quiet the pulse and procure sleep; the two indications, in the treatment of putrid fevers, upon which the cure chiefly depends.

Where there is already a looseness, no uncommon attendant on putrid fevers, in the beginning the antiseptic whey,* and the opening antiseptic drink,† generally prove sufficient. Where the habit is costive, and stools difficult to procure, I know nothing of equal power with the antiseptic purging apozem,‡ or the aperient sedative draught.§

It is common for some of our modern physicians not only to deride the ideas of the ancients about elective purges, but to take the alarm at purging to any great degree: what senna or jalap will not do, no other drug will effect. But I must take the liberty to differ from them both in the first and second instance, because I know, from long experience, that in many fevers the purging, whether natural or procured by art, must go on for many days, and will rather be

* See our Formulæ Medicamentorum, No. I.

† Ibidem, No. IV.

‡ Ibidem, No. V.

§ Ibidem, No. VI.

be moderated than increased, as well by the aperient drink above mentioned, as by the aperient sedative draught; and that, while a common purge cannot touch the feverish materials, the antiseptic purging apozem will unlock and dissolve, or discharge them. I must add one word more: towards the end of putrid fevers a few grains of rhubarb will procure sleep, when other opiates prove ineffectual; and indeed it becomes necessary to strengthen the stomach and bowels, on which so large a share of the disease had fallen with severity.

S E C T I O N XVII.

ANTISEPTIC DRINKS.

IN former times the greatest attention was paid to every thing that seemed to relieve or offend the sick. The old physicians observed, with particular care, what Nature craved, and found, that while foods, especially animal substances, were commonly disrelished, and often abhorred, Drinks were greedily desired; and that those of the four and acescent kind only appeased the patient's longing. Our wise forefathers took the hint, and contrived such drinks. Accordingly *osymel* was a principal febrifuge with Hippocrates; ripe fruits were recommended by *Aræteus* and *Trallian*; *Galen* applied vinegar outwardly

wardly till the skin was inflamed, embrocating with it the axilla, inguina, anus and feet, when there were marks of bile in the primæ viæ; and so long ago as the tenth century Rhazes gave acids to prevent the plague.

It is remarkable, that in hot countries Nature supplies the inhabitants with the finest acid or acéscant fruits: we have already taken notice how provident she has been in adapting them to the degrees of heat and putrid tendency in different climates. Nevertheless it is known, that many modern physicians attempt to cry them down, even where it can be proved that they are not less necessary, or less efficacious, in putrid diseases here, than in Greece, Italy, Africa, or the West-Indies: but this prejudice has not equally prevailed in other countries. "The juices of
"citron and sorrel," says Senertus, "resist putre-
"faction, peculiarly strengthen the heart, correct
"the feverish habit, and have aperient powers
"at the same time." "And," says Van Swieten,*
"the juice of ripe fruits requires no preparation,
"extinguishes thirst, tempers heat, opens the
"belly and urinary passages, and furnishes the
"most exquisite solace to a stomach oppressed
"with putrid bile." Of his master, Boerhaave, we are told, that in a stubborn putrid case he ordered, with success, ten pounds of cherries daily. One of the ablest physicians of this century has
observed,

* Sect. 88. T. i.

observed, that "it is a vulgar error to suppose
" diseases are made more violent, or more fre-
" quent, by an intemperate use of fruit." To
add one quotation more from the best writer we
know upon bilious diseases, "Small draughts of
" barley water with rob of elder or currants,
" syrup of lemons and raspberries, not forgetting
" ripe fruits, mulberries, strawberries, grapes,
" cherries, pine-apples, are excellent; for the
" virtues of acids are such, as to correct all
" putrefaction, to resolve by their detergent
" qualities all bilious concretions, to favour and
" promote all the secretions; and, while they do
" not relax the solids too much, they refresh
" the spirits by their fragrance." I may add,
that the juice of strawberries and currants extracted,
with water, makes an admirable drink, as the
fruits themselves make a food along with bread;
and we have the rob of the last in perfection
and plenty all the year round, to supply the
place of citron or lemon juice. When that cannot
be readily procured, the fleshy grape; and where
it cannot be obtained, the gooseberry, or the
Jargonell and Bury pears, furnish the best pro-
vision in putrid fevers, and cure the bilious
dysentery like a charm.

Such are the virtues of vegetable acids: and
when physicians discover, by an early attention
to the smell of the sweat, the urine, or fæces,
or a close examination of the colour of the skin,
tongue,

tongue, &c. a tendency to a putrid state, they cannot only cure many dangerous, but prevent many fatal diseases by such means.

Decoctions or infusions of frumentaceous substances seasoned with sea salt, cream of tartar drink, thin wines, juice of lemons, and plain vinegar, do all contribute largely to an immediate, and perhaps a lasting correction and change of a corrupted state of juices.

When the disease is not outrageous, nor the putrefaction extreme, the vegetable acids are generally sufficient; and when no inconvenience is found from their use, they may be given very freely, and indeed are probably necessary. It is a mistaken notion, that they will produce the colic, or disagree where there already subsists one, as in putrid cases of colic we know that nothing proves a speedier cure.

Chymistry has moreover furnished the shops with the nitrous, muriatic, and vitriolic acids; which, according to the chymists, differ more in their degree of concentration than in their other qualities. In a very putrid state of the juices they are used with the greatest advantage. The muriatic acid has with me the preference, not only from the observations I have made of its effects, but from the universally acknowledged antiseptic power of the sea salt, from which it is extracted.* The virtues of those acids in general,

* Boerhaave, Baglivi, Tissot, Arbuthnot.

ral, when given internally, are distributed through all the parts of the body, the mouth, stomach, blood vessels, and secretory organs: for, applied to the mouth, they increase the secretions of saliva, and allay thirst: applied to the fauces, in the ulcerated and malignant sore-throat, they correct the putrefaction, and preserve the parts from gangrene, or even stop its progress when already begun: taken into the stomach, they excite appetite by correcting its juices; for nothing palls it more than putrid matter lodged there. It is a fact well known, that they are very useful in the dysentery; I mean the bilious one so common in armies during the autumnal season, where they correct the corrupted fomes, and act as strong antiseptics, hindering the putrid process in the animal œconomy.

Finally, the best writers, and the most successful practitioners, are agreed about their great use in putrid fevers.

Since Dr. Priestly has contrived a method, so easily executed, of communicating the delicate and agreeable flavour, or acidulous taste, which can be produced by the mixture of fixed air with the drinks of patients ill of putrid fevers, it ought likewise to be practised, as it promises good effects in such cases.

S E C T I O N XVIII.

BY ANTISEPTIC DIAPHORETICS.

THERE scarcely exists a putrid fever, where a part of the offending effluvia will not, by means of these, find its way to the skin, and in some cases relieve beyond all expectation. Acids mixed with cold water often act as Diaphoretics: the antiseptic whey,* or antiseptic wine-whey,† do so in a remarkable degree; and the diaphoretic sedative draught § is perhaps the medicine, of all others hitherto known, that is both most sudorific and sedative, if not given too early in the disease, even where the skin has been long dry, and the patient harassed with the feverish fidgets and restlessness.

S E C T I O N XIX.

BY REPOSE, BY MEANS OF SEDATIVES AND OPIATES.

NATURE has in the strongest manner pointed out the necessity of Repose in fevers: for no sooner is a person seized with the fever, than the joints generally lose their power of supporting the frame; an erect posture becomes almost intolerable, the disease increases in a very conspicuous degree, the

* Formulæ Medicamentorum, No. I.

† Ibidem, No. II.

§ Ibidem, No. VII.

the morbid juices enter more deeply into the habit; and the dangerous symptoms grow in proportion to the time the patient attempts to sit out of bed. While the circulation labours (either from the fullness of the vessels, or from a bad quality in the circulating fluids) it becomes indispensably necessary, that the body should be laid in an horizontal posture, and remain so a longer or shorter time, till the juices are diminished in quantity, or changed in quality; and it is known, that by lying in a relaxed state under the bed-cloaths, together with the use of proper drinks and an antiphlogistic or antiseptic regimen, the patient is in general soonest recovered.

It was a complaint of old, that the sick were killed by their physicians obliging them to take exercise in fevers. Hippocrates mentions Herodicus having destroyed his patients by such a practice; and amongst ourselves it is not uncommon to see people, who from their own inattention, or the neglect of their medical friends, shall walk about two or three days with a fever upon them; a conduct which often proves fatal in the event. Sanctorius has remarked, that there are particular hours in the four and twenty, when the perspiration is greatly increased, even in healthy bodies. Who does not know how much heavier the body and spirits feel by getting out of bed when the perspiration is at its height? How much

must the case be affected, where the juices are in a putrid state, by retaining such matter in any quantity!

Perpetual watchings destroy the strength,* increase crudities in the humours, and often throw the sick into phrenzy or fatal convulsions. We know that the increased motion of the blood, or the pulse growing harder in inflammatory diseases, prevents the patient's obtaining sleep; and that in general every kind of acrimony in the juices produces so much irritation in the circulation, as to hinder this most desirable relief.

Sleep is the sick man's Elysium, the state his soul pants after: it sustains our hopes, digests our humours, and prevents delirium or deadly convulsions. To procure it, has been the desideratum of all ages. Our bodies cannot be supported in bilious or putrid fevers without its benign influence. Could we with certainty procure it in fevers, we should often be enabled to make the happiest prognostic, where we can promise nothing without it. When we know how to produce sleep, the disease can scarce prove deadly; I speak of natural repose. Attempts to force it in the beginning of Inflammatory fevers, by opiates, (before the hardness is taken off from the pulse by venæsection, revulsions,

* It was a practice of General Cohorn's to carry on his sieges in such a manner as never to allow any repose to the besieged, by which means they were thrown into fevers; while other generals used only to keep up their fire in the night.

revulsions, fomentations, or emulsions) do infinite mischief: but in Putrid ones, which arise from irritation, opium given with lemon juice or vinegar, one or two grains of the one with a spoonful of either of the other, has such wonderful effects sometimes towards the end of the fever, as to deserve the character of a cure wrought by the hand of God, where every other remedy has failed. I speak from experience.*

Many things have been tried to procure sleep in all ages. Aræteus observed long ago, that a profound quiet begins the disposition to it; he forbids a single word to be spoken, or voice heard, or even the tread of a foot, the least noise, or any light: he says, that great heat and great cold prevent it; that moist air and softening diet promote it; that the same effect is produced by the fall of water, the gentle whistling of the wind, and the rustling of poplar leaves. Latter writers have added little more, excepting the use of opium with acids; but, unfortunately, they seldom can be given with propriety at a

M 3. period

* Sir William Duncan gave the author of this Enquiry a hundred and seven drops of laudanum within twenty-four hours, on the seventeenth day of a Miliary fever, in a delirium of four days standing, with a clean tongue, and cured him;† nor can he let slip this opportunity of acknowledging with gratitude the many just and useful hints, for the treatment of Putrid Fevers, which he received from that very able and conscientious Physician.

† See a case of the same sort in Dr. Storck's *Annus Medicus*.

period early enough to procure this great desideratum in putrid fevers.

Instead of repeating what has been said on one of the most important of all subjects, the procuring of sleep in fevers, I go on to observe what has scarcely been taken notice of, or is not commonly known, that in inflammatory ones, whether the fizy blood has fallen on any particular viscus, as on the side, lungs, liver, intestinal canal, or is circulating about in the general habit, as in rheumatic or ardent fevers; taking away blood in a sufficient quantity at proper intervals, together with sufficient dilution and an antiphlogistic treatment, always procures sleep soon enough to prevent delirium; and that in the true phrenitis or paraphrenitis the above plan will cure it when come on, if strenuously practised.

Nor must I omit to mention, that I had for many years looked in vain for a method of procuring sleep in fevers of the putrid kind; by which I would here be understood to mean fevers from irritation or acrimony, in a greater or less degree; but have at last the comfort of being able, if called in early, to point out a method that seldom fails to procure it. I said, If called in early; for my plan will not answer where cordials, broths, and volatiles, have been poured down in the beginning, and blisters have been applied to almost every part of the body

body at the same period. Correctors, but chiefly evacuants of putrid juices, are calculated to produce this blessed effect. As for cordial-confection, volatiles, blisters, broths, mithridate, and the like, I can from my own experience affirm, that they are not: but subacid drinks, as barley water with lemon juice, imperiale, lemon, orange, or vinegar whey; ripe fruits, strawberries, gooseberries, raspberries, and currants, in summer; and in winter, oranges, grapes, and pears, currant jelly, or preserved fruits, will dispose the patient to sleep. After the fever is formed, the soluble tartar, with manna and tamarinds, or with lemon juice, in a sufficient dose to purge three or four times daily, or in a less quantity when there is already a diarrhoea,† seldom fails to procure, in the course of a few nights, enough of sleep to keep off delirium; will often remove it when already come on, and generally produces that sort of repose which quiets the pulse, and which is the most promising mark of recovery that I know, even in the worst putrid fevers.

In such fevers it is not unusual for the sick to become comatose with their delirium; a symptom that exceedingly alarms the attendants, and often, I wish I could not say commonly, misleads the physician to apply blisters, and give stimulating medicines, with a view of keeping up the pulse, as they express it. In this state (where I am

M 4 led

† Formulæ Medicamentorum, No. V. and VI.

led to make a favourable prognostic) I have been taught by experience to pursue a very different course: for I frequently allow the patient to lie for several days, perhaps eight or ten, in his delirium, without ever offering to disturb him, except for the purpose of his taking wine whey, panada and sago with wine, or spirit. Minderer. and julep. camph. with a few drops of Hoffman's anodyne liquor, till he obtains natural sleep, or till the fever has totally left him.

S E C T I O N XX.

BY ABSTINENCE FROM ALL PROMOTERS OF PUTREFACTION, AS FISH, FLESH, VOLATILE SALTS, AND ACRID VEGETABLES.

ABSTINENCE has different meanings in different situations, according to the ideas of the patient and of the physician, or the customs of the place or country where a person lives. In England it is made to consist, rather too often, in abstaining from roast beef, bacon, and water-fowl; in eating chicken, veal, fish, and perhaps mutton.

In France, where Ballonius, Heurnius, and Riverius, formerly practised with such success, and taught with such skill—I say in France, where, to be in repute now as a physician, you must be an adept as a cook, (for bouillons at least) strong

strong soups are found at the bedsides of their sick, even in their hospitals: and at Paris, in the Hôtel Dieu, I have seen the patients fed with broths between four and five o'clock in the morning, when perhaps the poor people might have reposed better without them.

In general it is a good rule, that in fevers the patient should take nothing, in the way of food, that requires much coction, or any exertion of the digestive powers. Where the juices are already crude, it is manifestly improper in a high degree to use any thing strong, or hard of digestion. As fish becomes putrid sooner than meats, they must of course be particularly unfit where flesh meats are so, and both together cannot fail of increasing the putrid diathesis.

Acrid vegetables have in some proportion similar effects, and must consequently be improper under the circumstances just mentioned.

The best chymists assure us, that volatile alkaline salts received into the cavities of our vessels, actuated by vital heat, and circulated by the impetus of the blood, are, from their preying and stimulating power, attended with an immediate stroke on the nervous system, which they throw into yet intenser action, thereby promoting perspiration, sweat, urine, and saliva: from whence it follows, that in an alkaline, putrid, or dissolved state of the humours, or in bodies already too much agitated, they are the worst of poisons.—See Boerhaave's Chymistry. I

I take upon me to say therefore, that abstinence from all such becomes a necessary precaution; and that, unless the dietetic regimen is altered from its present mode in this country, no human art will be found sufficient to convert putrid fevers into safe diseases.

S E C T I O N XXI.

OF THE ABUSE OF BLOOD-LETTING IN PUTRID FEVERS.

THOSE physicians, if any such there still are in this country, who think that a part of the cure of every fever must necessarily consist of Blood-letting, show themselves to be ignorant of their profession; for the symptoms of head-ach, heat, thirst, or delirium, however strong, do not always require it.

In the hospitals of France I have seen a fourth or fifth bleeding ordered in the last stage of fevers with delirium, and a black tongue, and teeth covered with a black tenacious slough; in a word, with the pathognomonic signs of putrefaction and malignity. A speedy dissolution was the consequence, as might naturally be expected.

Bleeding increases putrefaction, and weakens the habit, in almost every circumstance where there is no plethora. Blood that looks thin and sanious seldom admits of repeated phlebotomy.

To

To say the truth, notwithstanding the many observations recorded by a variety of good writers on the bad effects of this practice in some fevers, it is but of late that the fatal tendency of letting too much blood in putrid ones has been properly understood or considered, and that only by a very few.

In the peripneumonies of December, 1745, Dr. Huxham established this excellent rule: "If the blood, having stood until cold, appears to be in too dissolved a state, and with very little cohesion, however florid it may be, stop your hand instantly, unless you would strangle your patient." He calls this a sure rule about blood-letting where the case is doubtful, pag. 145.

Thus we see the absolute necessity of attending to the state of the blood, even in cases which might be supposed to proceed from inflammation.

Though I believe it will hold pretty universally, that fevers truly putrid may bear one bleeding in habits very plethoric, yet a second or third generally proves deadly, if malignity be the character of the fever, and the particular disease be either the ulcerated fore-throat, the jail, or petechial fever: nor do I know the symptom that can in those cases justify such a practice. I would therefore recommend it particularly to young practitioners, to use the utmost circumspection in discovering the nature of the fever,
and

and the state of blood, as they would avoid the pain and disgrace of having mistaken the case, or of having destroyed where they were called to save.

S E C T I O N XXII.

OF THE ABUSE OF BLISTERS IN PUTRID FEVERS.

IT is really shocking to see the manner in which the sick are thrown upon the rack in most fevers, by having their heated and agitated bodies almost embalmed with Blister-plasters. As I attempted in the Twelfth Section to explain and ascertain the effects of blisters, made of cantharides, on our blood in particular states of it, I have only to enter my protest against their application in every fever with loose blood and putrid symptoms.

S E C T I O N XXIII.

OF THE USE AND ABUSE OF WINE IN FEVERS.

IF it be true that Asclepiades was the first who was enabled to judge with certainty by the pulse when Wine was proper in fevers, and when not so, it is matter of regret, that so valuable an art should in a great measure have died with him. We find, indeed, the old writers mentioning situations in which it was useful, and giving directions as to the kind, the quantity, and

and the times of giving it.† But from the moderns we have not received any rules on this subject, that can be deemed sufficiently full and accurate. Among the sick in a military hospital near Pimbluco, of which I had the care for almost twenty years, putrid fevers were very common; and they were generally brought under our eye on the first, second, or third day of the fever. The patients diet and medicines being entirely under our regulation, their diseases were left to proceed in their natural form: the pulse was measured by the watch, while nothing that could be prevented was allowed to agitate or sink it, besides the fever: blisters were seldom applied, or cordial medicines (as they are called) exhibited in a dose to affect the circulation materially in the putrid fever; and I observed, from long experience, that in the Inflammatory sort no benefit ever accrued from the use of wine in any shape, or in any quantity, and that even a single glass often did apparent mischief, by increasing the fever, or retarding the cure.

The case, I remarked, was very different in all the species of Putrid fevers; for, if there was a dejection of mind, or a violent diarrhœa, neither of

† Al. Trallian recommends wine in the cure of the cholera morbus: "Because," says he, "it has the power beyond any thing else to refresh most speedily the exhausted strength; and I have known many who have, beyond expectation, escaped the danger of dying by drinking it." L. 7. C. de Colera.

of which is uncommon in such fevers, wine mixed with barley water did no hurt, even in the early stages of the disease, (when the pulse was almost always quick;) that is, provided there was no delirium in the first attack.

When the pulse fell below the natural standard, or under sixty-six, red Port wine, to the quantity of two, three, or four glasses in the twenty-four hours, was almost always of use, or at worst raised the pulse so much as immediately to show the impropriety of continuing to give it.

A foul tongue covered with a black slime, or attended with tough glare on the teeth, was always found to require it, even where the pulse was so rapid as a hundred and forty, with constant delirium, petechiæ, syncope, or a total inattention to the passing of excrements. I confess that I then gave wine, because I knew not any thing better: but where the pulse had in a putrid fever come down under seventy, I never saw wine do harm in any state of the brain; it generally did great good, and often wrought like a charm. Perhaps indeed the fever went on for many days longer, till at last the patient crept out of it by a continuation of the flux, comatose sleep, or partial sweats. A glass of Sweet wine repeated once or twice is commonly a sufficient dose in the twenty-four hours: of Lisbon, old Hock, or Claret, four or five glasses; and of Port, Sherry, or Madeira, two or three may be used.

In

In general, where wine is indicated, it should be made into what is called Bishop, or mixed with panada, falop, sago, or barley water; when it often proves a sedative.

Where there was faintness, with drought, watchings, a small, irregular, and unequal pulse, and bilious thin stools; or when that faintness was occasioned by crudities in the stomach, with a slow and small pulse; Alexander Trallian gave light white wines to help the concoction of the humours, to recruit the strength suddenly, and to prevent the fatal effects threatened by its loss.

S E C T I O N XXIV.

OF THE CURE OF INFLAMMATORY FEVERS IN PARTICULAR.

THE first and best physicians of antiquity have told us, that bleeding and a spare diet was the cure for Inflammatory Fevers, and have all united in directing both, in proportion to the severity of the symptoms.

Our knowledge of the circulation of the blood, and our superior knowledge of mechanical and chymical principles, serve only to increase our admiration of their sagacity and judgement, and to confirm us in the propriety of adopting their method of cure. The fact is, that little new has been discovered since; and it were well for the
cities

cities of London and Westminster if their mode of treatment were more conformable to that of the ancients in inflammatory diseases: so many people would not die choaked in their blood; at least, so many would not be afflicted with inflammations of the pleura, lungs, and liver, ending in consumptions or abscesses; nor of the brain and bowels, issuing in phrenzy and gangrene. To attempt to argue a point so clear, would certainly be preposterous; and to bestow much time in explaining why such consequences follow, would be equally superfluous.

Aræteus and Galen carried the antiphlogistic treatment as far as we dare; and if they were ignorant of the attenuating powers of nitre, and a certain degree of heat, they knew however the virtues of oxymel, barley water, and a very spare diet, better than they are now generally known.

Even a Sydenham, a Boerhaave, and our most illustrious moderns, all confirm their doctrines.

Wherever an inflammatory fever declares itself, unmixed with bilious or putrid appearances, not affecting any particular viscus, it requires the most simple treatment; but where either the brain, lungs, pleura, liver, intestines, kidneys, or bladder, become the seat of the inflammation, the utmost skill and care are necessary from the very beginning; otherwise the fever speedily produces dangerous abscesses, gangrene, or death.

There

There is not perhaps a more common error, than the supposing that emetics, purging medicines, or diaphoretic ones, are of use to assist the passage of fizy blood through the brain, the thorax and its contents, or through the cæliac system; or that by increasing the action of the blood vessels, which have already thickened the humours too much, they can be diluted and dissolved while the habit remains too full. It was well remarked, by a master of the profession, that those who attempt to push unconcocted matter through the vessels, where there are obstructions, occasion a gangrene. Sweats and blisters are not made use of in this state but with the most imminent hazard; therefore people should abstain from all hot spices, mustard, leeks, and onions, in such a case.

As the fevers of this sort certainly require no additional strength, the diet should be thin, at least in the beginning. Where the humours are too thick, abstinence and blood-letting are preferable to the best cordials; and the diet ought to be cooling and softening juices, pulps of fruit, decoctions of vegetables, and of farinaceous substances.

S E C T I O N XXV.

BY BLOOD-LETTING.

IT was observed before, that particular fevers are accompanied with peculiar appearances in the blood, and such as deserve great attention, because on a proper regard to them very much depends the successful treatment of the fevers in question.

But the many circumstances necessary to be considered in examining the blood, and ascertaining the state of both its serum and crassamentum, have, to the unspeakable misfortune of the Healing Art, made the whole appear an useless enquiry: and what has tended not a little to discredit any indications taken from it (very general ideas excepted) is the opinion of some eminent physiologists, who consider the blood's having an inflammatory crust, or wanting it, as no rule by which to judge of the state of the fluids; because, say they, its trickling down the arm instead of springing in a stream, or its coming away in a smaller and feebler one, through the narrowness of the orifice, prevents the crust from appearing: and in this they follow Dr. Sydenham, by whose authority, eminent as he certainly was in a high degree, they are apt to be too much fettered.

There

• There is not indeed any position, that has tended more than the last mentioned to mislead the physicians of this country, who look only for the crust, and pay too little if any attention to it, or to the texture, though the latter ought to have a principal influence on the future treatment of the fever. Again, they alledge, that the blood's being received into shallow vessels hinders the buff from separating; that agitating the vessel while the patient is bleeding, or sudden cold applied to it, will prevent any such separation from taking place.

As another reason why this buffy crust does not with them determine the morbid state of the blood, they say it appears where the person is pregnant, or has had menstrual obstructions. But who is ignorant that such obstructions give the blood a fizy texture? They are willing indeed to acknowledge, that the appearance of the crust shows an inflammatory tendency, but deny that it is in a diseased state, even though there be a quantity of crust, or that it discovers any lentor in the blood; adding, that it is of very little importance in forming any prognosis about the event, or in pointing out the method of cure in inflammatory fevers.

I hope enough has been said to evince the necessity of bleeding, and repeating it at proper intervals, according to the symptoms and the strength.

SECTION XXVI.

BY DILUTION.

AS the heat of the fever greatly wastes the most liquid part of our juices, a new supply is constantly wanted, and the secret lies in restoring the due quantity. This is not to be effected by pure water, either warm or cold; for that passes off by the kidneys, and does not mix kindly with the blood: but if honey, sugar, ripe fruits, or any farinaceous substance, be added, and especially if given warm, our juices are then properly diluted.

SECTION XXVII.

BY ANTIPHLOGISTIC DIET.

HAVING seen above how largely a proper Diet contributes to the cure of fevers in general, we shall find no great difficulty in applying it to the inflammatory sort in particular, where almost the sole object is the reduction of the strength by the lancet, and by a diet calculated to attenuate those humours which have become too thick and tenacious.

Had the Prince of Physic written nothing on any other subject in medicine besides his book on Thin Diet in acute diseases, it would have
made

made his name immortal. The most penetrating chymist of modern times could scarcely have devised any medicine more diluting for thick humours, or more dissolving for tenacious ones, than the barley water and oxymel of Hippocrates: with such we might make a tolerable shift in fevers even now. Where both are combined, every thing may be expected in the way of abating and diminishing the symptoms of inflammatory fevers, so as to gain that time which we have represented as indispensable to their cure, provided always that the lancet's aid is called in where indicated.

Let it be added, that no habits can justify the indulging to a regimen that is totally opposite to the genius of the distemper: but I do not wish to rest a matter of this importance on my own authority. Hear the opinion of the modern Hippocrates, (Sect. 854. p. 142. of Boerhaave's own Commentary, part iv.) "Where the pneumonia is known, it is curable; but it may be made incurable if any coarse chyle be brought into the blood: hence let the sick eat nothing that is thickening or viscous; to wit, neither flesh, nor eggs, nor milk; only the freshest new-made whey: in this case let the food be barley-water, or water-gruel only, or butter-milk from which the butter has been separated; for much food is not requisite, and the sick can easily hold out with little

“ till the ninth day, which is the critical one.” One authority more concerning the diet of the sick, and the danger of neglecting it; that fatal rock on which so many patients in inflammatory fevers are daily wrecked. Speaking of the cure of quinzey, Dr. Sydenham has these remarkable words: “ Meats of every kind, and likewise
 “ broths prepared of them, are sacred, and must
 “ not be touched. Let the patient live on barley-
 “ water, water-gruel, and boiled apples; and
 “ let ptisan and very small beer be his drink.” On the cure of the bastard peripneumony he adds, “ In the mean time I forbid my sick to
 “ touch meats or broths made of them, and
 “ especially every sort of spirituous liquors.” But how short is the list of physicians now-a-days, with whom these best authorities have any weight!

S E C T I O N XXVIII.

BY ANTIPHLOGISTIC MEDICINES.

WE know how much heat may be allayed, and how much cold may be induced, by nitre and sal ammoniac. We likewise know how wonderfully the Almighty Chymist has blended the essential salts of plants, fruits, and the different parts of vegetables, with their pulpy substance; how strongly our nature craves them
 in

in heated and feverish habits, and how delightfully they soothe it.

We have before hinted what aids our chymists have contrived, where such natural assistance is not at hand, or not in fashion, to dilute and cool our humours by means of neutral salts.

It has been seen likewise, that nitre and the other neutral salts have, besides their attenuating powers, the additional quality of being sedative, and even anodyne. Such are the saline mixture of Riverius, our antiphlogistic drink,* salts of nitre, polychrest, and prunelle, mixed with milk and water, with teas of every sort, or with the testaceous powders. The proportions are so well known, that any further directions must be useless.

S E C T I O N XXIX.

BY BLISTERS.

THERE have been, and always will be, fevers where the blood is thick and glutinous, as those of the rheumatic and inflammatory sort; to dissolve which, after the vessels have been emptied to a proper degree, Blisters are of wonderful efficacy: for, though it must be owned, that during their operation the motion of the arteries is accelerated, yet soon after the pulse grows softer and milder in consequence of the

N 4

cantharides

* Formulæ Medicamentorum, No. III.

cantharides having melted the blood and humours. Certain it is, that many eminent physicians, and among the rest Dr. Sydenham, have employed Blisters with advantage in winter fevers, when the action of the arteries had not power to break down the size and texture of the blood without them. They have been applied too by many with success in the small-pox, where the hands and feet were not sufficiently swelled, provided at the same time that the pulse was slow, and the patient rather heavy than otherwise.

In fine, where the circulation is languid and feeble, as frequently happens in the end of inflammatory fevers when the blood is not enough dissolved, they prove as useful as they are the reverse when the pulse is quick and vigorous, or the juices are putrid.

In cold affections, when the head is violently attacked, Mercurialis recommends Blisters applied to the feet, in preference to any other part of the body.

The best epispastic is warm water, and the strongest is the vapour of warm water, which last is indeed of incredible efficacy.

Sinapisms with vinegar, leaven, &c. have always been used with success in putrid fevers, their antiseptic virtues correcting the putrid diathesis, agreeable to the testimony of the best writers.

Nor

Nor do we dispute the good effects of making a revulsion by means of blisters in a variety of cases, provided they are adapted to the state of the juices at the time; particularly when there are bad humours floating about through the internal parts of the body: such applications may serve to draw them outwards. Let it however be still remembered, that stimulating substances, when they do not remove the obstruction, increase the inflammation; and that they do not remove the obstruction, unless when the vessels have been previously emptied, and where volatile salts may be indicated as able to remove them: for example, in inflammatory rheumatisms, and pleuritic complaints towards the end of the disease.

S E C T I O N XXX.

RECAPITULATION.

FROM what has been advanced it appears, that most fevers are efforts of the constitution to get rid of what offends in different ways, according as this has been accumulated by different causes, and is in a disposition to be carried off; that the best physicians, considering fevers in this light, have attended chiefly to the means of reducing or supporting the strength of the patient as nature indicated; that when the bile, instead of flowing into the intestines, has
been

been regurgitated, and mixed with the blood more or less intimately, from obstructed perspiration, damp or over-heated air, too thin cloathing, affections of the mind, too little repose, a bad situation or climate, the consequences are bilious disorders, hospital, camp, jail, putrid, petechial, malignant, and pestilential fevers, in proportion to the combination of circumstances; and that the same general indication of correcting, and conveying off when corrected, so material a cause, is the direct road to a cure. We have shown how this is to be attempted with the greatest probability of success.

It farther appears, that the process for correcting and curing fevers from a bilious or contaminated state of juices being less understood, and more complex, according to circumstances of the season, climate, quality of the juices, and management of the fever in its beginning, the duration of such fevers must be more tedious, and their issue in common hands more uncertain; that fizy or too compact blood, whether arising from mere plethora, or produced by too cold air, too strict a habit, too thin cloathing, too thick food, excessive fatigue, want of exercise, and proper dilution, is the leading cause of inflammatory fevers, as such blood, by circulating through the general system of blood vessels, or pressing particularly on the pleura, lungs, diaphragm, or any of the cæliac viscera, produces rheumatic, pleuritic, pulmonic,

pulmonic, phrenitic, hepatic, or intestinal fevers; and that weakening the tone of the vessels, diminishing the quantity of circulating fluids by bleeding, diluting the remainder with warm water, frumentaceous, vegetable, saline, and saponaceous liquors, and giving the necessary assistance by laying the solids at rest as much as possible in a proper and temperate air, constitute the natural process for the cure of inflammatory fevers; a process almost always successful, if properly pursued and sufficiently extended; and finally, that inflammatory fevers being on these accounts less complex in their nature, and consequently more under the power of regulation, the times of their duration and their crises are better ascertained,

S E C T I O N XXXI.

OF THE PREVENTION OF FEVERS.

THE peasants of England are in the habit of letting blood and taking physic every spring, and many of them likewise in the autumnal season. This would not be a bad rule if it was not too general; for so far as their peculiar circumstances of life subject them to the danger of fizy blood, that evacuation, which enables the arterial system to destroy by breaking down the too viscid texture of the blood, must, no doubt, contribute

contribute much to prevent plethoric and inflammatory fevers.

For Preventing Inflammatory Fevers I would observe, that besides venæsection, where there are evident marks of plethora, the blood and other juices of our body should be diluted with small liquors much more than is commonly practised; that greater care should be taken to have small-beer in such a state of purity and freshness, as may tempt us to make more use of it in the midst of our solid meals; that a larger proportion of thin attenuating liquors should be mixed with our food in the time of eating than is usual, much depending on the blood's having a sufficient quantity of serum; and that porter, ales, and wines, should not be drank till small liquors have preceded: in short, that the French manner of living, with regard to diet and drink, should be more generally adopted; I mean, that broths, vegetables, baked fruits, water, &c. should be much used. To all which I add, that the people of this country should be clad more like those of Holland, who leave not off their winter cloaths till Midsummer-day, and put them on again the day after; and also that every interruption to the digestion, by leaning forward on desks, by studying too severely, or by writing immediately after a plentiful dinner, should be carefully avoided. If ill success, domestic troubles, or other causes, have worn the mind, and vitiated the juices, that kind
of

of phyfic or purging medicine which carries off the morbid fomes from the intestines, by entering the cæliac or mesenteric systems, and mending the juices there, will serve to prevent such an accumulation of matter as would finally produce the worst species of putrid fevers.

To ward off both Bilious and Putrid fevers it is of importance to abstain, especially during hot weather and southerly winds, from meat, fish, and all sorts of wild and water fowl that has been long kept, or at least to temper them with acids in such a manner as to counterwork their natural tendency to render our juices putrid.

For the same purpose, the fruits of the season, as currants, cherries, and gooseberries, which every one can partake of, should be moderately used, together with oranges and preserved fruits where they can be obtained. Not to disguise the truth, unless the present mode of late hours and unequal cloathing is given up, the inhabitants of London will be as ill able to bear the want of oranges, lemons, citrons, spiceries, &c. as the inhabitants of the Torrid Zone could exist without the correcting acidity and reviving fragrance of those productions.

If, notwithstanding a general attention to health, any person shall find his spirits become low, his head ache, his tongue feel parched, with the edges of it as if touched by a live coal, and his mind fall on the most disagreeable circumstances with which he is acquainted, his sleep become interrupted,

interrupted, or his fancy harrassed with uncomfortable dreams, he has reason to suspect that a putrid fever is ready to break out on the least irregularity, more simple or more complicated according as the body is more or less foul, the infection more or less active, or the house or place he inhabits loaded in a greater or less proportion with putrid effluvia. Against such impending mischief we presume, with a confidence inspired by proofs innumerable, to recommend our Prophylactic Powder * as the best preservative which modern times have produced.

To conclude, it will be allowed, that the man whose body is clear from every noxious humour is in no danger of contracting any illness, except from external violence or infection; but we ask with Galen, Why may not proper care be taken to keep the body clear from all such noxious humours?

* See our Formulæ Medicamentorum, No. X.

A P P E N D I X,

ON THE

HECTIC FEVER

AND THE

ULCERATED AND MALIGNANT

S O R E - T H R O A T;

WITH AN

I N T R O D U C T I O N.

A P P E N D I X

HEOTIC FEVER

UNCLASSIFIED & DOWNGRADED

20 R-E-T-H-R-O-A-T

MAHTIW

INSTRUMENT

A P P E N D I X.

I N T R O D U C T I O N.

HAVING in the foregoing Enquiry endeavoured to establish the propriety of dividing all fevers into Putrid and Inflammatory, or a Mixture of both, and to give an account of the several causes, distinguishing characters, and different treatment of the Putrid and Inflammatory species, it may not be improper to attempt a further illustration of our subject by selecting an example of each, and trying, from the testimony of the best writers, whether the plan above proposed, of an antiseptic treatment throughout in the Ulcerated and Malignant Sore-throats, and of one as truly antiphlogistic in the Inflammatory Hectic Fever, does not offer the greatest probability of success.

I have chosen the Ulcerated and Malignant Sore-throat as examples of the first, and the Hectic Fever as an instance of the last sort, for the following reasons :

First, Because, notwithstanding the many useful lights that have been thrown upon this subject by the writers of the last age in Spain

and Italy, and by two of our own most eminent physicians, particularly Dr. Fothergill, the disease still continues to make a havock so considerable, as to keep up the alarm about it both in the metropolis and all over England.

Secondly, Because, during a course of eighteen or nineteen years in a military hospital of which I had the charge, I never lost a patient by this disease, as my assistants can testify, though the nature of the service subjected the soldiery very much to putrid complaints, and many adults had the putrid fore-throat in its worst form.

Thirdly, Because, in an extensive private practice for yet a longer period, I never witnessed its fatal effects, excepting in two instances:*

The late A—— D———d esquire's old servant, of a very scorbutic and rather gross habit, had the malignant fore-throat with its worst symptoms; on which account, for three days before I saw him, he had taken Peruvian bark, cordial-confection, and opiates in abundance, besides two bottles of Port wine, and nearly a pint of brandy daily, as I was informed by those about him: I found him delirious, with his looseness stopped, and in the agonies of death, which happened a few hours afterwards.

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* When the above was written, I had not seen its fatal effects in two children, of a noble family, a few miles west from London.

The other case was of a young gentleman about five or six years old, where the disease was next to pestilential; for every part of the body that bore its own weight gangrened, as well as the orifices where he had been blooded twice before I saw him (which was three days after the seizure); the parotid glands were very much swelled, the whole body was more or less œdematous, and the skin throughout of an erysipelatous purple: he died the third day after I saw him.

I have pitched on the Hæctic fever, because I know that it has proved destructive to great numbers of boys and young men, especially in this crowded city, from their having not been treated according to the best antiphlogistic regimen, as well as diet, unless by a few physicians, who (I mention it with regret) have been condemned by the many for presuming to make the diet of their patients as antiphlogistic as they made the treatment; and I hope to show, that many have been saved in this way, who, but for so severe a regimen, must have long ago been numbered with their fathers.

ON THE HECTIC FEVER.

NOTHING can be more erroneous than the idea which generally prevails, That where the flesh is wasted, or the habit reduced, the case is always consumptive: for when a Putrid or a Rheumatic fever has lasted a considerable time, as frequently happens, and has been treated according to the best rules, the flesh shall be gone to appearance, though the disease is conquered, and the patient in safety.

The true pthisis, or consumption, is a very common disease in Great Britain, destroying perhaps a tenth part of those who die of what are called Chronical distempers.

It is not my intention at present to consider the sorts that are the consequence of inflammations in the side or lungs, or that are owing to external accidents, or that succeed a spitting of blood, with which last symptom very many consumptive cases begin.

I mean only to distinguish from the rest that species which is called the Hectic Fever, and to evince, what is by no means a common opinion, how very much it is within the reach of art,
if

if not hereditary, and if treated on a plan thoroughly antiphlogistic; a plan indeed, to which it is not easy in England to reconcile either the patient or his friends: nor, to speak the truth, are the generality of physicians fond of pursuing it; so far otherwise, that many of them affect to treat with derision this method of cure, which alone seems adequate to the violence of the disease, and without which the lungs become finally touched in a fatal manner.

We have already seen, that the best professors of the art, both ancient and modern, believed a fever to be often necessary for the separation of the impure part of our juices from the pure, and consequently necessary in many cases for the welfare of the body: but while this is admitted, it must likewise be owned, that a fever is the cause of many diseases, and frequently of death. The wisest practitioners, from a knowledge of these circumstances, have learned to be very cautious in their treatment of fevers, and to observe what are the sorts which on the one hand, by being cherished, are useful to the habit (as the general class of Intermittent and Depuratory fevers are) or on the other hand, if not restrained and conquered, produce the worst effects. Accordingly they discovered, that the kind of fever which was attended with an unnatural heat and too quick a pulse, lasting for many weeks, perhaps months, and shewing evident marks of obstructions

in the lungs, was a very dangerous one; and they called it Hectic. It was called so by Galen from its similitude to itself, without any feverish paroxysms, without increase, height, or remission, so that the patient was not sensible of his being seized with the fever. It was observed indeed, that it had a periodical increase, not from the Hectic itself, which always goes on with an equal tenor, but from the nourishment taken in, which, when digested and distributed, allowed the disease to return to its former state.

To make the doctrine which I wish to establish more intelligible, it is necessary to say something of the structure of the lungs, which are generally known to be divided into two parts. "Each
" part," says the most eminent Anatomist of this age,* "is quite a distinct mass; there is no
" continuity of substance between them, unless by
" the trunk of the great vessels which go into
" each. The lungs serve for two great purposes;
" first, the circulation of blood; secondly, the cir-
" culation of air, or the passage of the air into
" the lungs and out again: therefore they are
" compounded of arteries and veins like other
" parts, but have also a system of vessels (air
" vessels) which is peculiar to this part of the
" body: all these vessels enter the lungs in the
" middle of the inside of each lobe. The great
" blood vessels come to them from the basis of
" the

* Dr. William Hunter's MS. Lect. anno 1770.

“ the heart. The lungs do not, like the other
 “ parts of the body, receive a portion of blood
 “ for secretion or nourishment; but they receive
 “ all the blood which goes through the whole
 “ body. This viscus has also a farther peculiarity,
 “ that, besides receiving the blood which goes
 “ through the whole body from the heart, each
 “ lung has an artery from the aorta, and a vein
 “ from the vena cava or azygos; so that this is
 “ another system of vessels serving them for
 “ nutrition. The blood brought to the lungs by
 “ the pulmonary artery is not good blood; it
 “ is that which has already been thrown over
 “ all the body for the purposes of nourishment
 “ and secretion, and it must pass through the
 “ lungs to be some-how changed there before
 “ it becomes fit for nourishment; therefore the
 “ lungs must be nourished by some good blood
 “ from the aorta, which had already passed through
 “ them. They have also lymphatic vessels about
 “ their root, which are commonly a number of
 “ lymphatic glands. There are likewise a great
 “ many of the same sort of glands, but smaller,
 “ dispersed through the substance of the lungs,
 “ which are of a blacker colour than the lym-
 “ phatic glands in the other parts of the body.”

The necessity of this long quotation will appear,
 when it is considered that the food which we
 take into our stomach, after being mixed with
 the salivary and gastric juices, passes through

the pylorus or lower orifice of the stomach into the duodenum, where, impregnated with the bile and pancreatic juice, it is rendered more fit for having the chyle separated from it by the remaining powers of digestion, when it descends into the intestines.

In proportion as the chylopoetic viscera are more or less strong, that chyle will be more or less pure. Anatomy has likewise taught us, that the chyle is poured by the left subclavian vein through the right ventricle of the heart into the lungs, to be there wrought into a more perfect state. The lungs then being the viscus where the new nourishment is to be turned into blood, and where that which has performed the whole round of the circulation is also to be rectified for the further purposes of life, they must necessarily undergo the severest labour. It is easy to see that they must suffer in proportion. Such bad effects will be peculiarly felt in London, where so many things contribute to render the sanguification imperfect; among the rest, that particular deficiency in the air, which arises from its pabulum being consumed by the multitudes that breathe in it, and which prevents the lungs from performing their office with the same freedom.

It is the observation of one of the best writers (Bennet's Theatr. Tabid. p. 100.) that high living and good fellowship are very apt to bring on consumptive complaints, especially in those who
have

have not bile separated in due proportion to the quantity of their juices ; and where there is an abundance of humours, they must become acrid in the same degree as the solids want exercise to throw off such superfluities, particularly if the season to coldness or moisture join an unnatural inclemency.

Foods of a grosser and glutinous quality (and such both art and nature contribute to render most of the foods of the southern part of this island) are not, in delicate habits, reducible to a state of sufficient tenuity, or fineness. The disorders that are so common in this enormous city will naturally fall with uncommon weight upon the lungs, and produce crude and acrid humours, such as catarrhal complaints, coughs, spittings of blood, in the first instance ; and in the second, hectic fevers, obstructions, inflammations, tubercles, and collections of matter.

Add to all this, besides an hereditary temperament, the time of life and the predisposing causes of acrimonious blood, a delicate system of blood vessels, violent emotions of body and mind, heightened by natural discharges being any-how checked, obstructed menstrua, lochial fluxes suddenly stopped, or by habitual hæmorrhages, piles, or issues ceasing, &c.

An imperfect chylification in the cæliac system, so general an attendant of scrophulous habits, tends very much to aggravate stationary complaints

plaints in the lungs. When therefore young people of such a constitution exchange the pure and elastic air of the hills, for the damp, foul, and relaxed atmosphere of cities, sacrificing the health derived from their mother's milk, and sober fare, to a life of confinement, with boiled beef and buttered cakes, at boarding-schools, or in counting-houses; or when young artificers come to labour as carpenters, masons, &c. in damp houses or new walls, in open doors and windows, and to live upon the coarse meats and strong drinks of this irregular town; who can wonder if fizy blood, and infarctions of all the viscera, are the consequence? What completes the mischief to society, is that the progeny of these people are as unskilfully treated, and as grossly fed, as their parents: hence the tun-bellies, ricketty joints, and crooked limbs, of those children whose great-grandfathers were strangers to such a life, and who could boast, that their immediate descendants were able to stand upright, and step forward with spirit!

Again, is it surprising that checked perspiration, late hours, thin cloathing, and the gratification of every restless and immoderate passion, should load the vessels of the lungs and mesentery with fizy blood and scrophulous obstructions; or that bad coughs, night sweats, and a Hectic fever, should ensue? Can any be at a loss to foretell the fatal tendency of such disorders, especially
where

where almost every man's son, brother, or neighbour, is melting and dying away with the same complaint, from an inability in the absorbent vessels, weakened as they are, to transmit chyle from such coarse materials, in a pure state, to its receptacle?

From what has been suggested, I doubt not but every man of sense will see the necessity of that mode of cure which I took up my pen to recommend, namely, a discharge of blood in this state from the veins by the lancet, a diet that will give no additional labour to the chylo-poetic viscera, a purer air, and a clearer sky; and in particular cases, at the bad season, a flight to some climate where there is a more temperate winter, joined to a stile of exercise, as well as temperance, very different from the usual management. I have frequently seen the necessity of quitting London air, to temper the heat and compose the hurry of the circulation, where a Hectic fever had continued for five or six weeks in despite of the best medicated regimen; and oftener than once I have known the patient return to town in twenty-four hours as free from both, as if neither had formerly existed. I have likewise seen the most stubborn infidels on this subject reduced to the necessity of submitting to a diet of whey, milk-porridge, water-gruel, fruits, or farinaceous foods, when, in compensation for a penance which they thought
so

so dreadful, they received back their spirits, their lungs, and their constitutions; and I have known many, who had been given over by their anxious friends on account of Hectic complaints, recovered by so severe a regimen, as only tended to complete the triumph of their physicians.

Having already demonstrated that the lungs must be exposed to harder labour, and of course to greater danger, than any of the other viscera, where the air we breathe, and the diet we use, contribute to it so largely; I flatter myself that every intelligent person must be convinced how unfit thick, tough, inflammatory, coarse, and often acrimonious blood necessarily becomes to pass through the pulmonary system, without that sort of repeated exertion which we call a Cough, and without the further struggle of a Hectic fever; both which united naturally produce a night sweat, that enables the habit to renew the conflict with nutritive foods, and the very improper chyle which these furnish, the following day and night, and so to hold out a while longer. If then we are once sufficiently acquainted with the nature of such a disease, and are at the same time in possession of a rule to judge, that most probably no ulceration in the lungs has taken place, we can join our opinion with that of an admired author on this subject, "*Quod nil pestiferum est modo pulmones non exulcerat;*" and that the cure is
still

still in our own hands, which is what I wish to prove.

Whether I have addressed the understanding of my readers with sufficient evidence to prevail on the inhabitants of this town, where the missing of a meal is become an intolerable grievance, to adopt my plan, is another question; but that affects not in the least my doctrine, which is, that in general (I do not say always) the blood may be restored to a healthy state by proper bleedings and a very severe antiphlogistic diet; that by these means the Hectic, which I have described, may be, and often is cured, and a further progress to a deep consumption stopped; that many young gentlemen, of great hopes to their parents and their country, (for it is among fair-complexioned men with tender lungs that genius and spirit is most frequently found in northern climates, while various circumstances happen to make such scrophulous) and also many of the most industrious young artificers, whose ambition hurries them into this mart of wealth and reputation, may be saved from too early a fate. I even go so far as to assert, that there are at present alive in London and Westminster above an hundred such, who by the means we propose have been restored to perfect health from this Hectic, of which there is not now the least mark remaining.

What

What I would propose then is, that blood should be drawn away two, three, four, or five ounces at a time, according to strength and circumstances, particularly the fizziness of the blood; that meat and every thing made of it, fish and every thing made of them, and all spirituous and fermented liquors, diluted or otherwise, excepting small-beer, should be given up at once; that cows milk diluted according to its thickness, or butter-milk, as it is called, from which the butter has been separated while the milk is new, milk or rennet whey, asses milk, barley-water, well-baked bread, all fruits and vegetables while full of their essential salts or neutral ones, the summer fruits, strawberries, gooseberries, cherries, &c. and oranges, lemons, grapes, apples, and pears in winter, colleyflowers, broccoli, and turneps, and sometimes potatoes, should be the food of the hectic patient; that he should retire from labour, business, books, anxiety, the counting-house, and the foul air of London; and when the veins are sufficiently emptied to allow of it, exercise on horseback or in a carriage, according to his strength or circumstances, should be practised. By following this plan the Hectic fever, the cough, the night sweats, shall often disappear, and health and vigor be regained. I must mention with regret, that after parents have had the good sense to fall in with such measures for a considerable space,

space, and with great advantage to their sick, I have often seen their resolution fail them, because they observed the patients tremble and stagger, from what they called being starved to death, at the very time that the pulse was becoming unequal and slower, and the inflammation was therefore just about to cease.

I speak within the bounds of truth when, judging from the bills of mortality, and the numbers in such circumstances who have been brought to my door since the year 1750, I assert, that there must be very near twenty thousand children in the cities of London and Westminster, and their suburbs,* ill at this moment of the Hectic fever, attended with tun-bellies, swelled wrists and ancles, or crooked limbs, owing to the impure air which they breathe, the improper food on which they live, or the improper manner in which their fond parents or nurses rear them up: for they live in hot bed-chambers or nurseries; they are fed even on meat before they have got their teeth, and what is, if possible, still worse, on biscuits not fermented, or buttered rolls, or tough muffins floated in oiled butter, or calves-feet jellies, or strong broths, yet more calculated to load all their powers of digestion; or are totally neglected.

How

* If this be questioned, examine the public charity-schools and workhouses, the parishes of St. Giles's and Drury-Lane, and satisfy yourselves.

How much preferable were the raspings of French bread, the bottom crust of well-fermented and well-baked loaves, mixed with a little milk, or now and then with broth clear of fat and grease!

When by such irregularities matters have come to the state I have described, the Antiphlogistic powder, which I have likewise called the Antirachitic powder, will reduce and remove the Hectic fever, the hard and swelled belly, or fit the ricketty patient for the cold bath; that sovereign cure for the large joints, and weak or even crooked limbs, of children bred and nursed in London air, the very bane of infants upon the breast, and of children in general, but which cannot be made use of while the belly remains large.

ON THE
ULCERATED AND MALIGNANT
S O R E - T H R O A T.

IT is not above forty years since this country has been visited by the Ulcerated and Malignant Sore-throat, or at least become acquainted with them; though both kinds are now very common, perhaps more so than they were in Spain or Italy in the preceding century.

Soon after the appearance of this disease here, its putrid nature came to be suspected by a few physicians, and its distinguishing symptoms have been described with great accuracy by Dr. Fothergill.

The late Dr. Huxham, of Plymouth, likewise favoured us with his experience, and many useful observations on the subject. Their works are well known.

The alarm which the small-pox was wont to spread in this island, but especially in the southern part of it, wherever it appeared, is fresh in every body's memory: indeed it is only within these few years that Sutton's method (and he is fully entitled to the honour of it) quieted the minds of the people, by convincing them of its

not being so frightful a malady under proper management. And of what, after all, does this management consist? Of fresh air, light foods, fruits, frumentaceous substances, vegetables, antiseptic and antiphlogistic diet, and proper purging physic.

The success of Sutton's method, in the cure of the small-pox, confirmed me in the belief, that whatever corrected the humours, and cleared the body most effectually of putrid materials, gave the best title to success in this disease, for these reasons: Because its appearances throughout were so remarkably putrid; because it was generated or communicated (no matter which) by foul or infectious air; because it was most prevalent in the beginning of winter; because it was more fatal in low and damp situations; because it was fed by loose and putrid blood, as it was of a bilious nature in all its symptoms; and because it was rendered more dangerous by impure and putrid foods, and increased in its violence by imperfect perspiration, and thin cloathing, as well as most common in relaxed and delicate habits.

To show more distinctly in how many instances we are alarmed about the Ulcerated Sore-throat without sufficient ground, and, even where it is malignant in its nature, how speedily that treatment, which is found to be most proper in putrid fevers, changes the appearances, and renders

ders the disease less dangerous and less fatal, being the object of this article, I proceed to divide it into two sorts, the Ulcerated and Malignant; because, though the ulceration in the throat is very nearly similar in both, and even corresponds in some of the symptoms, yet it differs exceedingly in others, especially in the degree of danger; the last requiring, from the very first seizure, the strongest antiseptics, no less than the strictest attention.

Every appearance proves that both sorts are putrid and infectious, communicating each the other. At a gentleman's house in Islington the worst symptoms of the Malignant were to be seen in his children, while only the Ulcerous prevailed among his maid-servants; and the species that was attended with two or three days sickness, with the greatest dejection of spirits, both the scarlet and miliary eruption (the last sort of eruption seldom shows itself till the fifth or sixth day) produced only the common sort in the maid-servants who attended. At the same house, in one Lady of nineteen or twenty, the disease returned a second time, three or four days after she had a complete crisis to the first; but this is the only instance in which I have observed a second seizure from the same infection.

One would imagine, that a disease so evidently putrid would secure against a state of juices truly inflammatory; and yet the measles were

caught in a few days by a child of six or seven years old, just escaped from the Malignant Sore-throat, where four or five bleedings were necessary to save the lungs from peripneumony and ulceration, and where the blood was fizy in an extreme degree. Such is the power of that invisible thing called Infection, and such the difference between the state of our juices in putrid and inflammatory fevers.

S E C T I O N I.

ON THE ULCERATED SORE-THROAT.

THE Ulcerated Sore-throat shows its approach by a pain in the throat on swallowing the spittle, which is followed by a chilliness of longer or shorter duration, with pain in the back and limbs, as in the accession of any common fever, attended with a considerable depression of spirits, and a sort of head-ach which seldom fails to attend putrid fevers, and which I cannot compare to any thing so well as the head-ach that one often feels who has been long in a crowded play-house or public assembly. These two last symptoms mark the disease, even before the ulceration is discoverable in the throat, and ought to put the physician on his guard as to the nature of the complaint. Within eight or ten hours after the seizure, a greater or less degree

degree of ulceration is discoverable in the tonsils, resembling sometimes the confluent small-pox before maturation, and seated in the middle of the tonsil only; sometimes a foul slough covers the whole tonsil, attended with more pain than difficulty in swallowing; a fullness may likewise be felt externally on the sides of the throat, where the tonsils are situated, and tender to the touch.

Where this particular species of infection finds the body strong, the stamina good, the stomach and intestines not much loaded, the cæliac and chylopoetic system free from material obstructions or cacochymy, the air healthful, the season unfavourable to putrefaction as in the end of winter and spring too, the barometer high, the situation not too low, the foods not too coarse, the cloathing not too thin, and without any preceding great irregularities in diet, or by sitting up in infected or foul air, and crowded assemblies; under these circumstances I should expect the Ulcerated Sore-throat only as above delineated, without malignity, and the patient disposed to fall into easy relieving sweats, a speedy diminution of the depression of spirits, and of the head-ach and pains, with a perfect sediment in the water, in a shorter space of time than in any other continued fever known to the ancients, or to us; I mean, within four days.

The cure depends on correcting the juices by our First and Second Formula, on keeping the body open with the Fourth or Fifth, supporting the strength with the Eighth or Ninth, and promoting a diaphoresis by the Seventh; and, if animal foods cannot be dispensed with, by mixing a sufficient quantity of acid (as lemon juice or vinegar) with broths made of new-killed meat, or of fowls fed on grain: mean time the parts affected should often be touched with mel rose acidulated with spirit of sea salt, twenty drops of the last to about an ounce of the first; or at least the tonsils and throat should be gargled with the above, moderately diluted by barley-water or sage-tea, until the ulceration disappears.

S E C T I O N II,

ON THE MALIGNANT SORE-THROAT.

IF the species of Putrid Sore-throat, which we now proceed to describe, continued to appear with as mild an aspect, and proved as seldom fatal here, or in the country of England, as it was represented to have done in 1769 in the cities of London and Westminster, or in the neighbouring villages, it would cease to deserve the character of Malignant, and scarce require any further attempts to render it more mild, or less fatal,

But

But having seen it in so bad a form, within these twelve months, as to comprehend all the symptoms which are considered as characters of the most Malignant fevers, with the additional circumstance of appearing in very high situations, as at Harrow on the Hill; and at a season of the year (in the months of June and July) when putrid fevers are scarcely set in; I hope it will not be considered as presumption in me, where my subject naturally leads to give a particular example of a putrid fever, if I make a few remarks on the present mode of practice in such a complaint, and affirm, that until a plan more exquisitely antiseptic be pursued, it must continue to alarm the public with too much reason.

I cannot refrain from observing, that a sort of fatality has attended the treatment of diseases termed Malignant; I mean the general belief, that medicines called Alexipharmac, or Cordial, are alone able to overcome malignity, in whatever shape it may appear. Upon what principles of philosophy or chymistry those practitioners proceed, who have adopted such ideas, they best can tell: that they continue to entertain them against the evidence of the most glaring facts, besides the want of success in many instances, is what gives me most concern, and will, I doubt not, with candid minds exculpate me, not only for the strictures I have made on the pre-

sent method of treating putrid fevers in general, but also for any I shall make on the usual management of the Malignant Sore-throat in several important particulars; and the rather, as I persuade myself they will see how much I am disposed to fall in with their ideas where they are established on solid principles, and where manifest success, as well as sound physiology, give a sanction to their utility.

Before we proceed to the cure, let us see what are the symptoms which mark its nature, that we may judge from them, and the other morbid appearances, what probability there is of the indications of cure being fully answered by that antiseptic plan which we espouse so confidently, and which we recommend so warmly.

It is really curious to observe, that almost every symptom of every species of putrid fever, from the Bilious to the Malignant (I had almost said, to the Pestilential) accompanies one degree or other of this Putrid Sore-throat; on which account, among others, much may be learned by an accurate attention to all its symptoms.

We have found the ulcerated sort announcing its near approach by head-ach, languor, greater or less depression of spirits, with a soreness in the throat, followed by the hot and cold fit, ulceration in the tonsils, &c.

We shall find the Malignant species coming on with a host of formidable symptoms; for all

at

at once the infected person turns pale and looks like a corpse, is taken with such a giddiness of the head as precedes faintness, grows sick, vomits or purges, is seized with violent head-ach, depression of spirits, and a shivering fit; all which succeed one another in the space of a few hours, along with redness and swelling in the face, and with an inflammation and wateriness in the eyes, as in the measles. By this time he can no longer stand; nay, seems ready to die away with debility and faintness; and an erysipelatous redness discovers itself in the fauces, with ulceration and slough. In such circumstances the nature of the disease can scarcely be mistaken, as every concomitant symptom shows it to be a fever of the putrid kind, in which the blood is very acrimonious, in a dissolved and putrescent state, and contagious in a high degree. Such are the symptoms which stamp it with the character of Malignity. If, notwithstanding these appearances, its putrid nature shall still be disputed by any one, let him attend to the symptoms which succeed those we have mentioned; and which, as we said before, are distinctly traced by Dr. Fothergill, particularly the swellings in the parotid and submaxillary glands, and in the tonsils externally (by the size of all which we may judge of the quantity as well as quality of the disease) besides the oedematous appearances of the neck and throat, with the same sort of tumefaction
on

on other parts of the body, as in the wrists and fingers; the general erysipelatous colour that comes about the second day on the face, neck, breast, and hands, to the finger ends, which last are tinged in so remarkable a manner that the seeing them only is sufficiently pathognomonic of the malady; and finally, a great number of small pimples, of a colour more intense than that which surrounds them, appearing in the arms and other parts of the body.—See Dr. Fothergill's 5th edition of his Treatise on the Putrid Sore-throat.

The same writer has judiciously observed, that a wrong step at the first may put it beyond the power of art to afford relief.

It is agreed on all hands, that the body must be very plethoric indeed, and in adults only, to require bleeding: I never saw it necessary even once. I believe the repetition of it to be in general deadly.

Neither do hæmorrhages from the nose relieve the patient: they have indeed been reckoned dangerous here, as in other putrid distempers; and yet I have seen them happen very often, without proving a mortal symptom. In the blood, if drawn away, the crassamentum is rather of a lax gelatinous texture, than dense or compact, fine and rich, florid as lamb's blood, and quite soft.—See Doctors Fothergill and Huxham,

Emptying

Emptying the stomach by a gentle vomit will scarce ever fail to be of use; and there certainly appears to be a part of the putrid humours, that can only be discharged from the body by the stomach.

Where there is a looseness I generally correct the humours with my Antiseptic Wine-whey, No. II. by lemonade, tamarind tea, or imperiale. I never saw the looseness treated in this manner do hurt, though the purging is commonly dreaded as the greatest scarecrow in the Malignant Sore-throat, and therefore checked by every power of art. It did not hurt last summer in two young gentlemen, of noble families, though it went on after the scarlet and crimson eruption was complete; and where it has been stopped by opiates and astringents, it has still proved fatal.

We have seen cases in which blisters did not mend the matter. Heredia seldom found any benefit from them; and we have remarked above, that if made of cantharides they are totally against the genius and character of the Putrid fever. To look for any utility from the discharge they occasion, in a disease where there scarcely exists any purulency, and where there is too much stimulus every where, appears rather to be worthy of a doating nurse, than of a man of sense and skill.

Dr. Fothergill has given us the history of two cases where warm aromatic cordials and anodyne
astringents

astringents were administered assiduously, with suitable nourishment, and vesicatories applied successively to the neck, the back, and arms, but without effect.

There is not in this disease a more favourable symptom than a disposition to sweat, with a soft and moist skin: nothing seems to shorten it so much, to take off the delirium sooner, or to promote so happily a good sediment in the water. Our First and our Seventh Formula have the best effects in this way. How seldom does Peruvian bark perform any of these good offices for the patient!

I never gave volatiles, except Mindererus's spirit, salt of amber, or the anodyne liquor of F. Hoffman, which are all antiseptic; because I know that volatiles only dispose the juices to be more putrid, or quicken the putrid process where it has already taken place too surely.

Where cordials are wanted, or indicated, we can be at no loss while currant jelly, orange and lemon, or wines diluted into what is called Bishop or Negus, or yet pure wine or old cyder, can be had. I am not acquainted with any better cordial draught than our Seventh or Eighth Formula. I never did, nor ever do expect to see the strength supported, or the disease alleviated, by any possible preparation of animal substances. After sweating has begun, I believe wine will never hurt, if given with moderation,
either

either diluted as above, or mixed with panada, sago, rice and other gruels. Contrast with this kind of practice theirs who give draughts, composed of God knows what, so often as every two or three hours day and night, for days and nights successively, as if nature neither required other drinks, or foods, or repose.

If the circumstances of the case require it, Peruvian bark is hurried down with the same haste and sollicitude ; and bark must be given in our times, whether indicated or not. Where this best and only true febrifuge drug is necessary, (and it has often the happy power of triumphing over malignity in this disease, as well as in other putrid fevers, given as in our Twelfth Formula) let it in God's name be given in sufficient quantity to put them in a state of safety, but not persevered in for days and nights together, without any respite to the poor persecuted patient, when either the difficulty no longer exists, or the state of the skin, or the increased dryness, blackness, and hardness of the tongue, so strongly and fully point out the impropriety of persisting longer in its use ; or as if it were, even in such a situation, our last and sole resource, though in fact we have so many other aids from fruits, wines, and strong antiseptics both vegetable and mineral. These last remarks are equally applicable to the Putrid Fever at large, and to the Malignant Sore-throat under consideration.

In

In this disease topical applications are very useful, and indeed absolutely necessary; we have specified above the best and most powerful. I have known the patients to express their longing to have their throats touched with that reviving application (as they called it) of mel rose and spirit of sea salt.

It is not uncommon to see too little attention paid to the appearances of the throat and tonsils. I was once sent for to a Lady of rank, who had fled to town with a quinzey as she apprehended, where her apothecary had harrassed her by two bleedings, a strong purge, and a large blister. When I looked into her throat I discovered a small fish-bone sticking in one of her tonsils, which upon being removed left her in perfect health.

In a person, who had died of a disease in his throat in fourteen hours, it was supposed to be the Malignant Sore-throat; but upon dissection there was not the least appearance of disease in the tonsils, nor erysipelatous appearance in the throat, but only a few drops of matter on the edge of the rima glottidis.

It is hoped, that what we have advanced may be sufficient to demonstrate the necessity of an antiseptic regimen throughout, for the cure of the Ulcerated and Malignant Sore-throat in particular, no less than for the Putrid fever in general.



F O R M U L Æ

MEDICAMENTORUM.

FORMULE
MEDICAMENTORUM.

[225]

FORMULÆ
MEDICAMENTORUM.

I.

SERUM ANTISEPTICUM.

℞. Lact. vaccin. ℥iſſ.

Aquæ puræ ℥ſſ.

Simul ebulliant; dein admisce succ. aurantiorum
Sevill; limonior. ā ʒiſſ. ut fiat serum.

II.

SERUM ANTISEPTICUM VINOSUM.

℞. Lact. vaccin. ℥iſſ.

Aquæ puræ ℥ſſ.

Simul ebulliant; dein admisce vini Rhenani veteris,
vel vini albi cujusvis Hispanici, ʒij. succ. limo-
nior. ʒi. ut fiat serum.

III.

POTUS ANTIPHLOGISTICUS.

℞. Hordei Gallic. ʒij.

Decoque in aquæ ℥iij. ad colaturæ ℥ij. cui ad-
misce mell. Anglic. ʒi. sal. nitri purificat. ʒiſſ.
ut fiat potus communis.

Q

IV.

POTUS ANTISEPTICUS APERIENS (Imperiale vulgò.)

℞. Cremor. tartar. ℥ij.

Solve in aquæ puræ bullientis congio, & edulcorâ
q. s. syrup. cortic. aurantior. Hispalensium.

V.

APOZEMA ANTISEPTICUM PURGANS.

℞. Fruct. tamarind. ℥iss.

Decoque in aquæ puræ ℥ix. ad ℥vij. colaturæ; cui
adhuc fervidæ admisce mann. opt. ℥iss. tartar.
solubil. ℥ss. Cujus sumat dimidium primo mane,
& quod restat post bihorium.

VI.

HAUSTUS APERIENS SEDATIVUS.

℞. Tartar. solubil. ℥ij.

Mann. opt. ℥iss.

Succ. limon. ℥ij.

Aquæ puræ ℥iss.

M. fiat haustus sextâ quâque horâ sumendus.

VII.

HAUSTUS DIAPHORETICUS SEDATIVUS.

℞. Spirit. Minderer,

Aquæ puræ ā ℥vi.

Liquor. anodyn. miner. Hoffman. gutt. xv.

Syrup. e mecon. ℥i.

M. fiat haustus bis in die sumendus, aut 8vâ quâque
horâ.*

* This draught happens to be the only prescription I could
ever contrive, which suited all the stages of Putrid Fevers, after
the first week, as a diaphoretic and sedative at the same time.



VIII.

HAUSTUS CARDIACUS DIVITUM.

℞. Vini Burgundic.
vel Burdegals.
aut Rhenani veteris, ℥ij.

Sextâ quâque horâ sumendus, aut pro re natâ.

IX.

HAUSTUS CARDIACUS ŒCONOMICUS.

℞. Vini pomacei veteris,
vel Lusitanic. rubr.
aut Hispanici tenuior. ℥iss.

Horâ quâque 8vâ sumendus, aut pro re natâ.

X.

PULVIS PROPHYLACTICUS NOSTER.

℞. Sal. polychrest.

Pulv. radic. rhabarbar. ā gran. lx.

M. pro unâ dosi, 4 horis ante cibum aut potum
sumend. ex cyatho cujusvis vehiculi: quando
inceperit catharsis, bibat affatim Potûs Antiseptic.
Aperient. No. IV. vel liquoris Lemonade dict.

XI.

PULVIS ANTIHECTICUS ET ANTIRACHITICUS
INFANTUM.

℞. Sal. polychrest. ℥ss.

Pulv. rad. rhabarbar. gran. iii. iv. v. vi. vel vii.

M. pro unâ dosi, omni mane sumend. per 14 dies,
vel donec cesserit Febris Hectica, aut Tumor
Abdominis.

XII.

FEBRIFUGUM ANTISEPTICUM.

℞. Decoct. (fortior.) cortic. Peruvian. ʒij.

Spiritus salis marin. gutt. v.

M. fiat haustus pro re natâ sumendus & repetendus.

N. B. Had I been more ambitious of dying a rich man, than of living an useful member of society, the powers of our PROPHYLACTIC POWDER in preventing Putrid Fevers, or of nipping them in the bud, and those of the ANTIHECTIC and ANTIRACHITIC one, for curing, as if by miracle, the Hectic Fever and the Swelled Bellies of Children in this town, would have remained a secret while I lived. If it shall be said, that the materials of both have been long in use, I reply, That the first has not been given in the dose which I recommend, nor known to be fit for the purpose of prevention; and that the last has not been published before, nor its virtues understood.

F I N I S.

